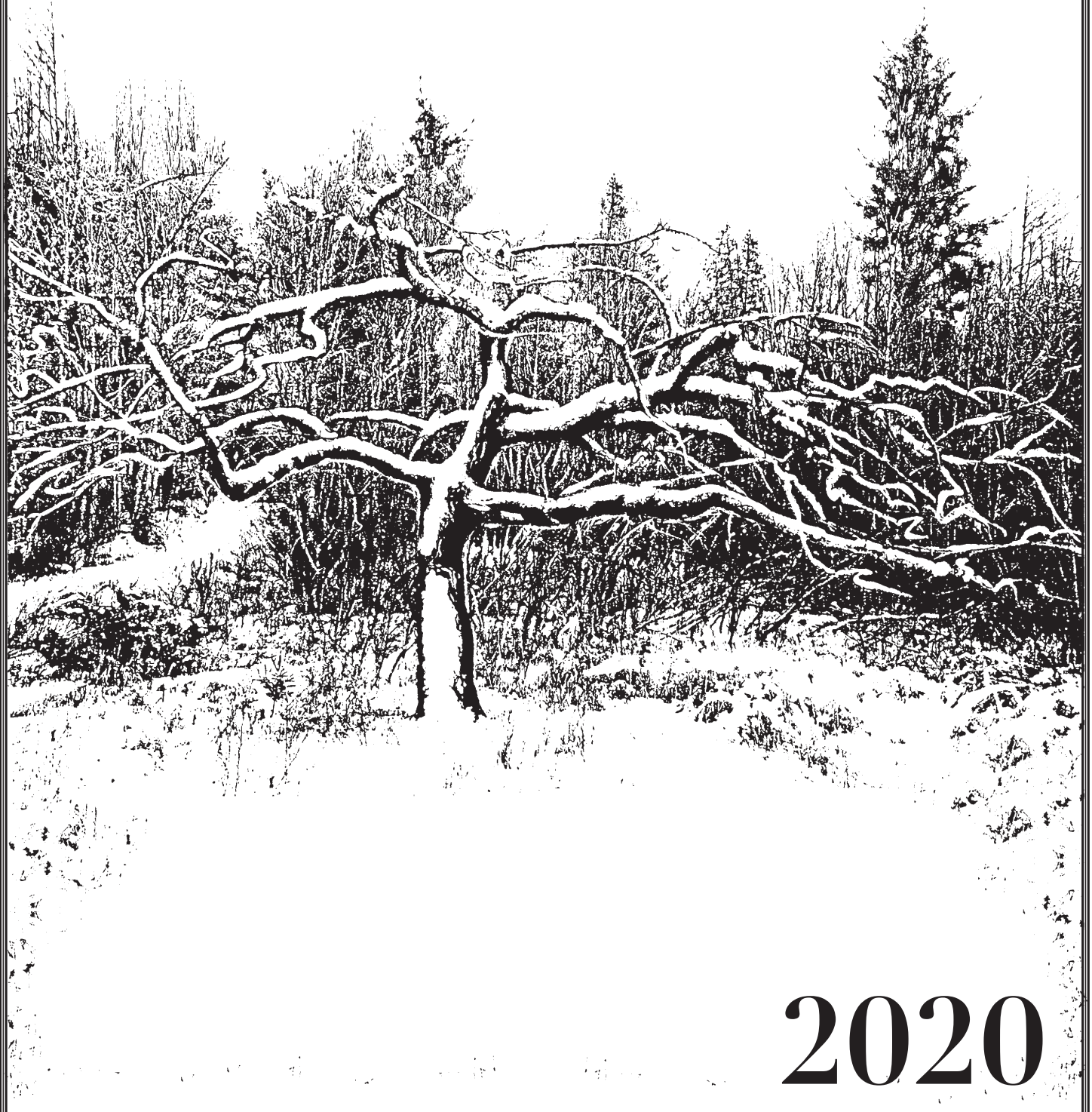
FEDCO

Trees & Plants for Spring Planting



2020

FEDCO TREES 2020

Welcome to Fedco Trees' 36th annual order.

Our goal is to provide the hardiest and healthiest plants available for cold climates, while supporting plant diversity, small-scale local agriculture, and a fair, cooperative and responsible workplace. Our no-frills operation helps keep plants affordable. Consider ordering in a group with co-workers, friends or neighbors to further minimize your costs. Please note our discount structure for large orders, our discount deadline, and the "Small & Light" shipping option for those who desire only items that don't require a giant box.

This year's **final ordering deadline is March 6**. As usual, we'll have loads of plants at our spring Tree Sale with many of the varieties listed here and some surprises, along with vegetable seedlings, potted herbs, and more. Hope to see you there!

In Praise of Winter

In early winter, between late fall and deep snow, the pond near our house becomes a glassy field. This is when we hike down the hill with skates slung over our shoulders and our little dog leading the way. Bald eagles bring their mates to fish at the open water of the inlet. Bright red winterberries stand out audaciously against the black coniferous wood line with hemlock and cedar standing guard against the wind. Along the pond edges, we follow tracks where the coyotes passed the night before stalking the subnivean zone. Here, the gnarled and sculpted wild highbush blueberry bushes rise from the ice like Old Man Winter's arthritic hands offered up toward the sky. We skate past these portraits to where stands of redosier dogwood spike like flames above the snow. It's cold out but this is what warms our hearts, all this stark and glowing beauty, and a little twiggy fire on the edge of the woods.

Winter is when we eat our harvests, drink our cider, read our catalogs, plan our gardens and revel in the landscape. Many of us consider winter a favorite time of year. We prune our trees, buck up our firewood, tap our sugar maples. It's also a time for inward focus and a reorganization of the spirit. There is much in this world that draws our energy. In the northern climates, we burn the candle at both ends during the warm months. When all the plants are making the most of the sun, we are also. Winter gives us recuperation, and contrast. Come to think of it, we spend most of the warm months of the year planning for winter. Might as well enjoy it when it comes!

This year, we bring you some of the best of the season: baked apples, Wassail, poetry, a foray into the root cellar, winter bouquets, dried berries—the richness of the quiet season. We crave this time and we gladly step into its rhythm. We embrace it and we invite you to embrace it, too. Lose yourself in the puzzle of an old apple tree's crooked limbs or the grand silhouette of a leafless elm on the horizon. This is the landscape of grey and brown and white but also of diamonds and glitter and magic.

Each year we vary our plant selections. We offer most of the old favorites every year and rotate through dozens of new offerings. You'll find new fruit trees, ornamentals and perennials throughout the catalog. Note that apple zone ratings now list only the coldest zone to which the plant is hardy. And don't miss **a wonderful new apple book**, hot off the press, by our dear own John Bunker (see page 12.)

If you're looking to create or expand your orchard, ask us about custom bench grafts for large quantities of trees at an affordable rate, and please note our **special discounts on bundles of cider trees** (see page 15). If you are looking to place a very large order, drop us a line to discuss the options.

If you have questions or concerns about your order, please contact us. We're here to help. If you haven't already, check out our **Seeds & Supplies** and **Bulbs** catalogs. If you enjoy this one, we're pretty sure you'll like those, too. We invite you to share your experiences growing plants with us. Many of our selections result from your suggestions. If you know of something growing near you that we should be offering, please write to us. We welcome your comments and have included some of them in the following pages. Keep 'em coming!

–Jen Ries & the Fedco Trees Team

Contact us: questions@fedcoseeds.com or (207) 426-9900

John Bunker, Laura Childs, Lauren Cormier and Jen Ries write plant descriptions. Elisabeth Benjamin edits with help from Susan Kiralis, Joanna Linden and Emily Skrobis. Laura Childs, Alicia Letteney, Melissa May and Elizabeth Smedberg do layout.

Fedco Trees Guarantee Policy

Please inspect your order upon receipt and notify us immediately if something is missing or incorrect. Occasionally, plants incur damage during shipping. If limbs or tops are broken, prune to the next good bud. The plant will do fine. We guarantee to ship you a plant that is healthy, will leaf out, and is true to name. We expect that you will care for the plant from the moment it arrives, plant it in a timely fashion, water it (about 1" per week after bud swell) and protect it (see pp. 67-70.) Because we have no control over growing conditions such as weather, soil, cultural practices, pests, wildlife, or weed whackers, we cannot guarantee a plant's survival past leaf break. If you see no sign of life, scratch the outer bark with your fingernail. If the inner bark is green, the tree is still alive. Some plants take longer than others to break dormancy, so you may need to be patient. If you have thoroughly cared for the plant and it dies, we will refund the cost of the plant. In some cases, we may choose to issue a partial refund. We cannot offer replacements. Inevitably, some plants die through no fault of yours or ours. If a plant dies during the first growing season, don't hesitate to contact us. We will work with you to determine what went wrong. We are partners in the endeavor of filling the planet with plants and we want you to succeed. Claims must be made no later than July 31 of the year the plant was received. For scionwood orders, we do not issue refunds or replacements based on diameter of wood. We are not responsible for the quality of plant material in the event your package is not promptly picked up or opened.

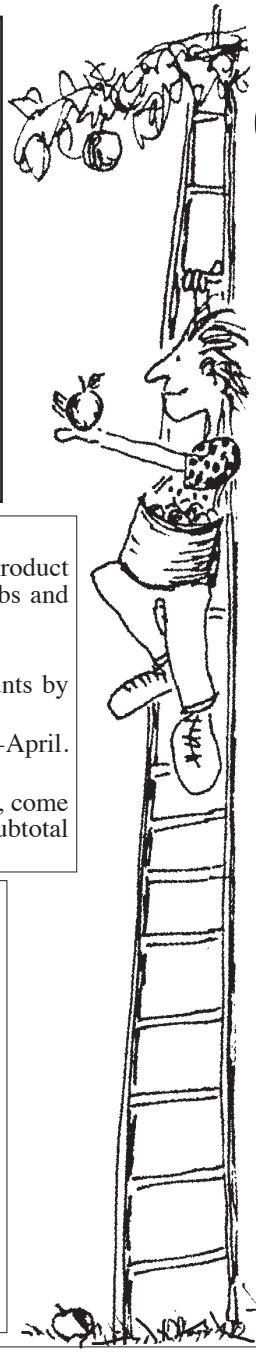
We limit our liability in all instances to the purchase price. The liability of Fedco Seeds, Inc., for breach of warranty, or any loss or damages arising out of the purchase or use of our products, including loss or damages resulting from any negligence whatsoever on our part, or strict liability in tort, shall be limited to the purchase price. By acceptance of the merchandise, the buyer acknowledges that the limitations and disclaimers herein described are conditions of sale, and that they constitute the entire agreement between the parties regarding any warranty or liability. Failure to assert claims within the aforementioned time frame renders this warranty null and void.

Important dates & deadlines

- **Volume discount deadline**, Friday, **January 17, 2020**
- **Ordering deadline** (except scionwood), Friday, **March 6**
- **Shipping** by UPS starts late March.

- **Scionwood order deadline**, Friday, **February 21**
- **Shipment of scionwood** & rootstock starts around March 16.

- **Order pickup** at our Tree Sale, Fri.–Sat., **May 1–2**, at our Hinckley Road warehouse in Clinton, Maine.
- **Public Tree Sale**, Fri.–Sat., **May 8–9**. Sale open to the public; orders still available for pickup. **Sale hours 9:00 to 3:00 each day.**
- **Early pickup** at our warehouse before the sale, Tues.–Thurs., April 28–30, from 9–3. You will not be able to shop. Less fun, shorter lines.



FEDCO TREES
Garden · Farm · Orchard

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For complete **Ordering Instructions,** see page 34.

- Order online at **fedcoseeds.com/trees**. You can also check product availability and see color photos of most of our trees, shrubs and perennials.
- **Volume discounts!** See the order form (p. 35) for details.
- **Group ordering:** Save on shipping and earn volume discounts by ordering with friends. Learn more on p. 34.
- **Shipping:** We ship most orders via UPS from late March to mid-April. For special shipping options, see p. 34.
- **Pickups:** If you're nearby, or just interested in all the hoopla, come get your order at our warehouse. (We require a minimum subtotal of $50 for pickup orders.)

New for 2020 (or back after a long absence!)

- New Fruits, Berries, Grapes & Hops!
- European Pear Collection
- White Oak
- Schisandra Berry
- Wisteria
- Yellow Twig Dogwood
- American Smoketree
- Doublefile Viburnum
- Vernal Wtich Hazel
- Diablo Ninebark
- Meader Bush Cherries
- Shasta Daisy
- Spotted Bee Balm
- Maine-grown Organic Dahlia tubers
- New Honeyberries and Elderberries
- New Crabs and Roses!
- New Perennials!

Our Variety Descriptions –

- **All trees and plants are bare-rooted** (except where noted), and even a large order can fit into a station wagon. Because of the nature of dealing with living commodities, **size variations will naturally occur** within each crop.
- For fruit trees and berries, the **exact dates of peak ripeness** will vary from place to place.
- The **zone hardiness rating** will aid you in determining whether a plant will be hardy for you. The average minimum temperature in your area determines your zone (chart on p. 71). Apple descriptions have minimum and maximum zones because apples typically need cold climates to produce the best fruit. All other plants list the coldest hardiness zone. Your own soil conditions, microclimate and topography will be equally important in determining the best varieties for you.
- Please note **pollination requirements** for fruits, nuts and berries. Some plants are self-pollinating, others require a second plant for pollination, and others require a second variety.
- We strive to give you accurate information about all the plants we sell. If you notice inaccuracies, please let us know.

YEAR OF INTRODUCTION · VARIETY NAME · RIPENING TIME · AG STATION TEST NUMBER · PARENTAGE

Shipman Sharp Fall-Winter. 9-50 (Ludwig x Gustav) x Clampett. Originated in the south, and introduced to Fedco in 1995. Sometimes included with the crabs, but we've found this apple's uses so varied that we consider it highly culinary. Solid acerbic green fruit with an occasional blush and netting so intricate it seems drawn with the finest pen. Soft inside. Best in cooking. A real keeper. Tree exhibits a grand classical form. Z4. ME Grown. — GROWN IN MAINE

999A Shipman Sharp, $30.25 — PRICE

BOTANICAL NAME · CULTIVAR NAME · COMMON NAME

***Viburnum carlcina* 'Doylie' Wild Raisin** Montville, ME, 1964. 15-20' x 10-12'. In early spring, big delightful doylie-like blooms bring joy to even damp dark cold spaces. Deep-rooted reliable distinctive shrub adds abounding character to the naturalized border or holds its own as a lovely specimen. Colony-forming: you may find yourself with more excellent Doylies—we say the more the merrier! Adaptable: thrives in full sun, but does exceptionally well even in the harshest conditions. Z4. (1-3') — PLANT STOCK INFO

MATURE HEIGHT x WIDTH

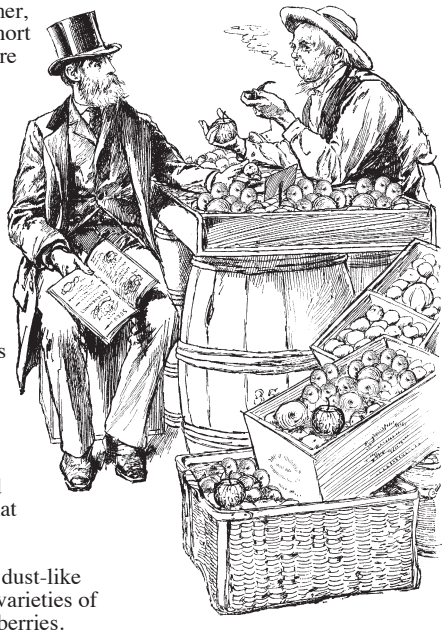
999A Doylie Wild Raisin, $15.00
999B Doylie Wild Raisin, bundle of 3, $45.00

ITEM NUMBER · HARDINESS ZONE

Choose the right apple!

Name	Season	All-Purpose	Fresh Eating	Storage	Cooking	Pies	High Flavor
101 Adams Pearmain	fall		●				●
102 Airlie Red Flesh	fall		●				
105 Ashmead's Kernel	winter		●	●			●
106 Aunt Penelope Winslow	fall	●	●	●	●		
107 Baldwin	winter	●	●	●	●	●	
113 Black Oxford	winter	●	●	●	●	●	
115 Blake	fall	●	●	●	●		
115 Blue Pearmain	winter	●	●	●	●	●	
118 Briggs Auburn	winter	●		●	●	●	●
119 Calville Blanc d'Hiver	winter	●	●	●	●	●	
120 Burgundy	fall		●		●		●
120 Canadian Strawberry	fall		●				●
122 Canada Reinette	winter	●		●			
123 Chestnut	fall		●		●		●
126 Cherryfield	winter	●	●	●	●	●	●
127 Cortland	fall	●	●		●	●	
128 Cox's Orange Pippin	fall		●				●
133 Deane	fall		●		●		
135 Esopus Spitzenburg	winter	●	●	●			●
137 Fameuse	fall	●	●		●		●
140 Frostbite	fall		●	●			●
142 Golden Russet	winter		●	●			●
143 GoldRush	winter		●	●			●
144 Gravenstein	summer	●	●		●	●	●
145 Gray Pearmain	winter	●	●	●			●
146 Grimes Golden	fall	●	●	●	●	●	
149 Honeycrisp	winter		●	●			●
151 Hudson's Golden Gem	fall		●	●			●
155 Keepsake	winter	●	●	●	●		
156 King David	fall	●	●	●	●	●	●
157 King of Tompkins County	fall		●		●		●
159 Liberty	fall	●	●		●		
163 Martha	fall		●		●		
163 McIntosh	fall	●	●		●		
166 Milo Gibson	fall		●				●
169 Northern Spy	winter	●	●	●	●	●	●
178 Red Astrachan	summer				●	●	
180 Redfield	fall				●	●	
182 Rhode Island Greening	fall	●	●	●	●	●	
185 Roxbury Russet	winter	●	●	●	●		●
193 Sweet Sixteen	fall	●	●	●	●	●	●
193 Trailman	summer		●				●
194 Tolman Sweet	fall	●	●	●	●		
197 Wealthy	fall	●	●		●	●	
199 Wickson	fall		●				●
200 Williams Pride	summer		●		●		
204 Winn Russet	winter		●	●			
204 Wolf River	fall				●	●	
206 Yellow Bellflower	winter	●	●	●	●	●	
207 Yellow Transparent	summer		●		●		
208 Zestar	summer		●				●

Apples *Malus* spp.



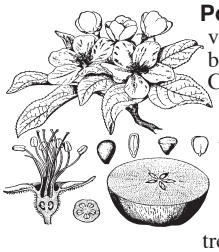
Summer apples ripen in summer, are generally crisp only for a short period, do not store well, and are often best for cooking.
Fall apples store longer and are useful for a wide variety of purposes.
Winter apples ripen mid to late fall, store well, and reach their best flavor after weeks, or even months, of storage.
Dessert apples are delicious eaten raw.
Cider apples are especially suited to making fermented "hard" cider. Some cider apples are also good dessert fruit, but most are not. See the cider section on pages 14-15.
Subacid means tart!
Russet is a skin texture (fairly common on apple varieties and on a few pears and potatoes) that looks and feels somewhat like suede.
Bloom is a naturally occurring dust-like yeast film on the skin of some varieties of apples, plums, grapes and blueberries.

Hardiness zone: The USDA plant zone hardiness map (see page 71 for chart) is a guide designed to assist gardeners and orchardists in choosing suitable plants. The zones are based on the average annual minimum winter temperature. The lower the temperature, the lower the zone rating number, and the "hardier" the plant. Zone 3 is about as cold as it gets in any part of New York and New England. Most of northern New York, Vermont, New Hampshire and Maine would all be Zone 3. The central part of the four states would be Zone 4. The southern half of each state would be Zone 5 or 6.

When choosing apple varieties, note the zone rating at the end of each description. If an apple has a Z3 rating, you will be able to grow it successfully in the coldest locations in Maine, as well as two or three zones "south." In other words, if the rating is Z3, it may be in its prime in Z3, but should do well down to Z5 or 6. Typically, it will not perform well outside of that approximate range. Note that hardiness works both ways. Not only can't you grow mangoes in Maine, you can't grow most apples in Florida.

Choosing a variety: Not every variety is right for you. All-purpose apples are just that—they're good for a bunch of jobs. If you're planting just one tree, start there. However, if you're a history buff, consider the historical varieties and maybe plant one that originated nearby. If you don't eat many apples fresh but love pies, go for the pie apples. If you're a dessert connoisseur, skip all the others and go for the highly flavored dessert varieties. Some are strictly for cider. Some are great to put out at the camp for summer use. Some are perfect for those who want fall fruit but don't have a root cellar. Others keep all winter and into the following summer. Read the descriptions and consult the chart. If you have a question about a specific variety, drop an email: trees@fedcoseeds.com. We'll try to help!

Care: Apple trees are adaptable to a variety of soils and climates, though they prefer well-drained fertile soil. See pages 67–70 for information on soil preparation, planting and pest control. Varieties that bear fruit annually are noted in the descriptions; others normally bear every other year. With diligent annual pruning and thinning, most apples will produce an annual crop, one heavy, the next light.



Pollination: All apple trees require a second variety for pollination, but any apple or crabapple blooming within a quarter mile will probably do. Customers frequently ask us about pollination and apples. Early season, midseason, late season bloomers—what does it all mean? Should you be in a tizzy about pollination? No. If there is at least one other apple tree somewhere in your neighborhood, the bees will do their thing, and you'll get fruit. It can be a wild roadside apple tree. It can be an ornamental crabapple. It can be old or young, in your yard or your neighbor's. But it must be different from yours. In other words, avoid planting ten Honeycrisps if no other apples are in sight. Most apples flower at about the same time so timing is almost never an issue. However, if you live on a desert island with only an early bloomer and a late bloomer, you should plant a midseason bloomer, too.

Choosing a rootstock: Rootstock determines the size, longevity, hardiness and growth habits of a tree. After enthusiastic response from customers, we continue to offer an assortment of dwarf and semi-dwarf rootstocks in addition to the standard.

We offer bundles of rootstock for grafting on page 16.

Standard rootstock: Most of the apples we offer are on standard (full-sized) Antonovka rootstock. Standard trees have deep, substantial—and therefore hardier—root systems. By selecting the varieties appropriate to your district, grafted on standard rootstock, you may well be planting a tree that will be picked by your grandchildren's grandchildren. Standard trees will grow to be large, but you can manage the size with pruning. The largest trees in our orchard are now about 30 years old, yet the tallest are well under 20' due to careful pruning. Although standard-sized apple trees may be planted as close as 10–15' apart, they were typically planted 30' apart in 19th-c. orchards. We generally plant standard trees 20–25' apart with good results. (Trees on standard stock are 3-6'.)

Semi-dwarf and dwarf rootstocks: We offer an assortment of semi-dwarf and dwarf apples on Bud 118, M111, Bud 9 and V1 rootstocks. Each has great advantages for some growers, but beware! These size-controlling rootstocks also have their limitations. Please read on and decide if they are what you want. If you are uncertain, stick with the good old standards. Trees on Antonovka (standard rootstock) are extremely rugged, hardier, more tolerant of drought and poor soils, very long-lived, and more capable of thriving under a regime of benign neglect. (Trees on semi-dwarf stock are 2½-5'; dwarf stock, 2-5'.)

• **Bud 118 semi-dwarfing** rootstock produces a tree that is about **85–90%** of standard size or even larger. Sometimes Bud 118 trees are called semi-standards or even standards. Plant about 20–25' apart. Considered to be more precocious (fruits at a young age) than standards, and probably more productive. Very hardy, though not as hardy as Antonovka.

115B Blake
120B Burgundy
122B Canada Reinette
131B Cox's Orange Pippin
146B Grimes Golden
151B Hudson's Golden Gem
158B Liberty
163B Martha
166B Milo Gibson
193B Trailman
208B Zestar
249B Screen Shot

• **M111 semi-dwarfing** rootstock produces a tree that is about **65–80%** of standard size. Sometimes M111 trees are called semi-standards. You can plant them closer together than standards, about 15–20' apart. M111 may not be more precocious than trees on standard. However it will likely be more productive. It has a relatively shallow spreading root system, does well in light soils, and is relatively drought tolerant. It is less well-rooted, not as long-lived, and not as hardy as Antonovka.

105C Ashmead's Kernel
106C Aunt Penelope Winslow
107C Baldwin
114C Black Oxford
121C Calville Blanc d'Hiver
130C Cortland
133C Deane
136C Esopus Spitzenburg
140C Frostbite
142C Golden Russet
149C Honeycrisp
164C McIntosh
171C Northern Spy
179C Redfield
185C Roxbury Russet
200C Wickson
231C Bitter Pew
234C Dabinett
235C Ellis Bitter
238C Gnarled Chapman
239C Harrison
240C Harry Masters Jersey
241C Hewe's Virginia Crab
243C Kingston Black
244C Kola
246C Medaille d'Or
247C Porter's Perfection
251C Yarlington Mill

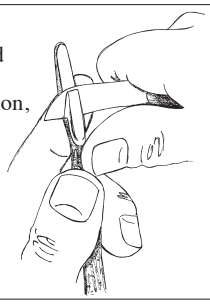
• **Bud 9 dwarf** rootstock produces a tree that is very small. It is a true dwarf, about **25%** the size of standard. This makes it extremely easy to spray, prune and pick. It requires way less space in your yard and will fruit at a very early age. You can plant trees 5–10' apart. On the other hand, it will not live nearly as long as those grafted onto Antonovka. It will be less well-rooted, more susceptible to drought and have more difficulty accessing soil nutrients. Trees should be staked for support. Hardy, but not nearly as hardy as Antonovka.

130D Cortland
158D Liberty
164D McIntosh

• **V1 dwarfing** rootstock produces a small dwarf tree about **55%** the size of a standard tree. Somewhat larger than Bud 9. You can plant trees 5–10' apart. Trees on V1 are very hardy, somewhat fireblight resistant, sucker very little and should be staked or wired for support. We have been happy with our V1 trials. V1 (Kerr x M9) is one of several dwarfing rootstock introductions from the Horticultural Experiment Station in Vineland, Ontario, Canada, 1958.

107E Baldwin
114E Black Oxford
149E Honeycrisp

Rootstocks



We offer most apple varieties on standard-sized Antonovka rootstock. Where

A follows the item number in the apple section, the variety is on standard rootstock.
B indicates the variety is on Bud 118 rootstock,
C indicates M111,
D indicates Bud 9, and
E is V1.

For more about rootstock, see pages 5 and 16.

Adams Pearmain Fall. Herefordshire, England, about 1826. Highly flavored rich juicy spicy aromatic dessert apple. Recommended for fresh eating; also for cider and salads. Medium-sized, conic, deep red to scarlet, striped, and conspicuously dotted and mottled with russet. Yellow-orange flesh. Moderately vigorous spreading tree. At the annual Stump Sprouts Apple Meeting many years ago, growers were asked to name their favorite varieties. Ike Kerschner of North Star Orchard in Cochranville, PA, raved about Adams. Our scionwood comes from Ike's trees. Although it showed no dieback here in Palermo at an impressive –30°, we don't have a firm sense of how hardy it will be in northern New England. Blooms midseason. Z4. **ME Grown.**

101A Adams Pearmain, $30.25

Airlie Red Flesh Fall. Possibly a seedling of the red-fleshed Surprise. Airlie, OR, about 1960. The flesh of this good-quality dessert apple is a surprising and beautiful deep salmon-pink. The medium-sized roundish-conic fruit is apricot-orange, sometimes with a deep red blush. As friends of ours said, "This is an apple for gazing at, admiring and fresh eating." Thought to have been discovered by Lucky and Audrey Newell in Airlie, OR. Introduced 40 years later and trademarked as **Hidden Rose** (cultivar name Newell-Kimzey) by Thomas Paine Farms in 2001. Also known as **Aerlies Red Flesh** and **Schwartz Apple**. Sometimes confused with Pink Pearl. Uncertain bloom time. Z4. **ME Grown.**

102A Airlie Red Flesh, $30.25

Ashmead's Kernel Winter. Unknown parentage. Gloucester, England, about 1700. Possibly a seedling of Nonpareil. An after-dinner apple of unparalleled quality. Not for those who like mild sweet apples. Each bite is an intense aromatic sting of sharp and sweet, with hints of other indescribable but absolutely wonderful tastes and aftertastes. Beginning to show up here and there in commercial orchards. A good sharp addition to hard cider. Medium-small oblate and lopsided orange-gold-green russet fruits ripen in October. Store until the New Year to reach perfection. Keeps until they're all gone. Moderately vigorous tree may bear irregularly, but it's worth the wait. Somewhat scab resistant. Blooms midseason. Z4. **ME Grown.**

105A Ashmead's Kernel, $30.25
105C Ashmead's Kernel on M111, $30.25

Wassail!

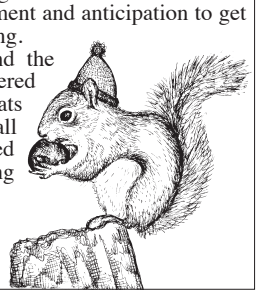
Winter is not only the time for pruning the orchard and reading by the fire, it's also the perfect time for an apple celebration.

For thousands of years, orchardists have been gathering on a deep dark January night to sing and dance, drink cider, and welcome in the New Year. Traditionally held around the old twelfth night after Christmas, in England they called it "wassail." The word *wæs hæil* dates back to middle English and means something like 'be in good health.' When we toast one another, we often say "good health to you!" That's wassail.

On a night in mid-January, we gather and drink cider around a bonfire. Musicians play and we sing old wassail songs and chant to the tree. Someone dons a pair of antlers and the rest of us bang on pots and pans to scare the deer away. We "toast" our oldest apple tree by hanging a piece of toast on one of the branches. We pour cider on the roots.

The wassail celebration is about getting together to express joy and thanks at making it through another year. We honor each other and honor the plants—particularly the apple trees—that sustain us. We exhort the trees to fend off disease and insects and drought and flood and whatever else comes their way. We express our excitement and anticipation to get back into the gardens and orchard, come spring.

After the singing and the whooping and the banging subsides, and the deer have all scampered away, we all adjourn to the house. Coats and hats and boots pile up in the entryway, and we all eat and sing. If all goes well, we'll be rewarded with a bountiful crop in the fall. As the old song goes, "Hats full, caps full, bushel bags full!"



"Wassail to the sweet apple tree!!!"
–Juliette Zanni, Foster, RI

Aunt Penelope Winslow Late Summer-Early Fall. Penelope Winslow intro, probably brought from Marshfield, MA, to North Haven, ME, between 1760 and 1770. Extremely rare all-purpose apple. Medium-sized, roundish, slightly ribbed, and conspicuously red-striped. Recommended for dessert use in October, and in early January still good for sauce: quick, thick, rich, yellow and slightly tart. I first learned of the apple from Len Alexander of Chelsea, ME, whose family has deep roots on North Haven Island, where one APW tree still remains. Many thanks to Gil Foltz, Len Alexander, Ellen Kennedy, Jay Gould, and others who have helped piece together the apple's long history. Scionwood is from Len's tree in Chelsea. Blooms midseason. Z4. **ME Grown.**

106C Aunt Penelope Winslow on M111, $30.25

Baldwin Winter. Wilmington, MA, about 1740. Also called **Butters Apple** or **Woodpecker**. Discovered on the Butters Farm by a surveyor planning the Middlesex Canal and noted as a favorite site for local woodpeckers. By 1850 Baldwin was the standard all-purpose home and commercial variety wherever it was grown. It remained dominant in Maine until the terrible winter of 1934 when tens of thousands of trees perished and McIntosh became king. Large round-conic thick-skinned fruit, almost entirely blushed, mottled and striped with red and deep carmine. Hard crisp juicy yellowish flesh makes excellent eating and cooking. Keeps till spring. Makes top-quality hard cider, blended or alone. Vigorous adaptable hugely productive long-lived healthy tree. When grower Dave Gott asked the late renowned entomologist Ron Prokopy his opinion of Baldwin, Ron replied that the apple is "not practical commercially due to biennialism but the only apple that is both disease and insect resistant." Blooms early to midseason. Z4. **ME Grown.**

107A Baldwin, $30.25
107C Baldwin on M111, $30.25
107E Baldwin on V1, $30.25

Black Oxford Winter. Unknown parentage. Paris, Oxford County, ME, about 1790. This outstanding apple, a favorite long ago around much of Maine, has made a huge comeback. Our bestseller until Honeycrisp came along. Medium-sized round fruit, deep purple with a blackish bloom. From a distance you might think you'd discovered a huge plum tree. Excellent pies, superb late cider. Leave the skins on for a delightful pink sauce. Best eating late December to March, but we've eaten them in July and they were still quite firm and tasty. They get sweeter and sweeter as the months go by. Good cooking until early summer. Some insect and disease resistance. Unusual light pink blooms early to midseason. Z4. **ME Grown.**

114A Black Oxford, $30.25
114C Black Oxford on M111, $30.25
114E Black Oxford on V1, $30.25

Blake Fall. Also known as **Windham Blake**. Westbrook, ME, before 1869. Medium-large roundish-conic-oblate hard yellow-green all-purpose apple with a crowned basin, sometimes a faint blush and a dab of russet around the stem. Medium-juicy, dense and quite good. Citrusy, tart, almost bitter. Keeps until just after the New Year. Mentioned in Downing's classic *The Fruits and Fruit-trees of America* but practically no other references exist. We're currently scouring Cumberland County west of Portland for specimens. This possible match comes from an ancient tree in Windham, not far from Westbrook. It fits the description well but until we can make a positive ID, we're also calling it Windham Blake. If you'd like to help with the search, or if you might have information leading to the apprehension of said Blake, please contact Fedco. Thank you to Dan and Shannon Johnson for providing scionwood from their tree. Blooms early to midseason. Z4. **ME Grown.**

115B Blake on B118, $30.25

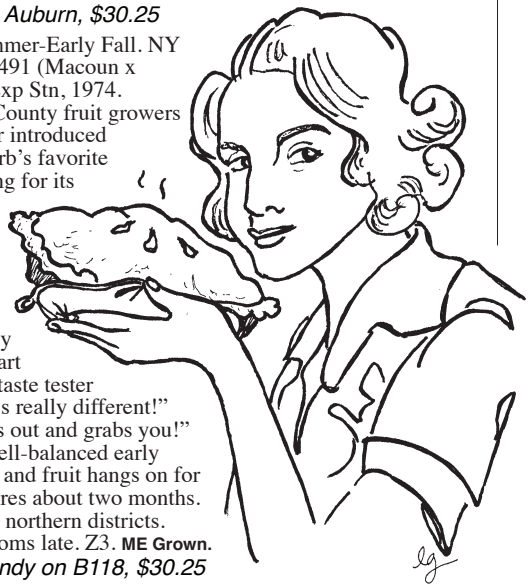
Blue Pearmain Fall-Winter. Thought to be from Middlesex County, MA, 1700s. Our favorite for baked apples, it was made to be stuffed. Moderately juicy flesh, firm, dense and slightly crisp, sweet with a bit of a tart background flavor. Incredibly beautiful medium to very large fruit is streaked and splashed with purplish red, mottled with russet and covered with a distinct dusty blue bloom. In a pie, it has just enough firmness and a good balance of sweet and tart with hints of pear. Tart coarse yellow sauce cooks up in a couple minutes. Tasty eaten out of hand. One of New England's most famous varieties. Mentioned by Henry David Thoreau as a favorite in his wonderful essay "Wild Apples." Grown throughout much of Maine for well over 200 years. Massive trees still found here and there. Keeps in the root cellar until midwinter. Blooms midseason. Z4. **ME Grown.**

117A Blue Pearmain, $30.25

Briggs Auburn Fall-Winter. Selected by Thomas Record, Auburn, ME, before 1849. Subsequently named for John Briggs of Auburn by Dr. Holmes, editor of *Maine Farmer*. Large round-oblate clear yellow fruit with glowing greenish shading and a slight blush. All-purpose apple with a bright well-balanced flavor including hints of banana and blackberry. Superior fresh eating well into winter and top-notch cooking. Peel it and it's highly aromatic. Produces a thick creamy golden-yellow medium-sweet sauce. Excellent in oatmeal. In a pie, the slices lose their shape but the crust won't sink and pie doesn't get watery. Medium-large reliably bearing productive tree. Recently we've suspected that Brigg's Auburn may have been called Naked Limbed Greening in Waldo County where our scionwood comes from. Blooms midseason. Z4. **ME Grown.**

118A Briggs Auburn, $30.25

Burgundy Late Summer-Early Fall. NY 161 Monroe x NY 18491 (Macoun x Antonovka) NY Ag Exp Stn, 1974. Northern Aroostook County fruit growers Steve and Barb Miller introduced Burgundy to us as Barb's favorite cooking apple. Striking for its large (3") size and glossy purplish-red roundish fruit. Waves and rays of red in the firm juicy flesh. Strong distinctive aroma and a pleasantly unique flavor with a tart zingy aftertaste. One taste tester said, "Wow, hey, that's really different!" Steve said, "It reaches out and grabs you!" Makes an aromatic well-balanced early cider. Bears annually, and fruit hangs on for extended picking. Stores about two months. Recommended for all northern districts. Extremely hardy. Blooms late. Z3. **ME Grown.**



120B Burgundy on B118, $30.25

Calville Blanc d'Hiver Winter. Unknown parentage. France or Germany, 16th c. Also called **White Winter Calville**. Famous as a dessert and cooking apple for more than 400 years. Steve Wood of Poverty Lane Orchards in Lebanon, NH, called it "the best culinary apple in the world." Large flattish pale green-yellow fruit with deep ribs and a dotted orange-red blush. Creamy-white aromatic fine-grained juicy flesh with a sweet distinctive effervescent flavor. Also recommended for vinegar, fresh cider and as a sharp (acid) component in fermented cider. Should be stored a month to reach peak flavor. Will keep until midwinter. Very vigorous strongly upright vase-shaped tree with good branch angles. Not for coldest areas though certainly hardy to Zone 4. Blooms midseason. Z4. **ME Grown.**

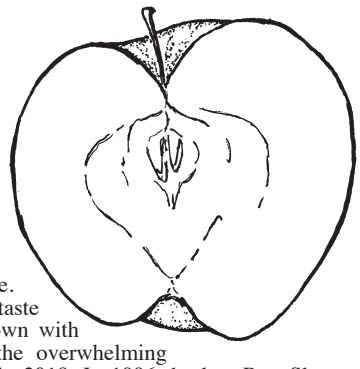
121A Calville Blanc d'Hiver, $30.25

121C Calville Blanc d'Hiver on M111, $30.25

Canada Reinette Winter. Possibly from Normandy, France, before 1771. High-quality all-purpose russet winter storage apple with a deceptive name, an uncertain history, and 350 synonyms. Roundish-conic, medium to very large, yellow to olive green with a reddish blush and mostly covered with russet. Firm, moderately tender, coarse, juicy, subacid and very good. Despite its name, it's thought to have originated in France. It arrived in Maine well before the Civil War and by 1850 was grown throughout much of the state. Still very popular in Europe a hundred years later. We even found the beautiful fruit at a convenience store in Villaviciosa, Spain, under the name Reineta Canada. Recommended for those with root cellars. Mid-late bloom. Zone 4 or maybe 3. **ME Grown.**

122B Canada Reinette on B118, $30.25

Canadian Strawberry Fall. Unknown parentage. Solon, ME. Beautiful superb-tasting dessert apple. Surprisingly juicy distinctly tart full-flavored medium-to-large round-conic fruit. Rich buttery-yellow skin overspread with a veil of vibrant red-orange. Very good early season cider. Perfectly ripe at the end of September in central Maine where, in a good year, you won't find a better apple. At our Common Ground Fair taste tests, it usually vies for the crown with Cox's Orange Pippin. It was the overwhelming favorite in 2017 and runner-up in 2018. In 1996 the late Roy Slamm convinced me to visit and subsequently propagate nursery stock from the three ancient "Strawberry" trees on his South Solon farm, thus saving the apple from almost certain extinction. Now spreading throughout Fedcoland. Fruit keeps about a month. Blooms midseason. Not to be confused with Chenango Strawberry. Z4. **ME Grown.**



123A Canadian Strawberry, $30.25

Cherryfield Fall-Winter. Wyman B. Collins intro, Cherryfield, ME, about 1850. Also called **Collins**. Popularized more than 100 years ago by David Wass Campbell of Cherryfield and Welton Munson of the University of Maine. This all-purpose variety does everything well. We love it. Relatively tart with only a hint of sweetness. Makes a fairly quick tart sauce with a smooth texture—the skins mostly dissolve. Good in salads. Makes a highly flavored pie with great color and texture. Excellent sliced up on pizza. Irregular conic shape, washed and striped with pink. Ripens about Oct. 15 and keeps until the end of March. Rediscovered with the help of Majory Brown, Larry Brown, and Kathy Upton, all of Cherryfield, ME. Historically, may have been grown in Kennebec County under the name Benton Red. Tree vigorous, hardy, spreading and productive. Blooms early-midseason. Z4. **ME Grown.**

126A Cherryfield, $30.25

Chestnut Early Fall. MN 240 (Malinda x open-pollinated) U Minn, 1946. A dessert crab with truly excellent fruit for fresh eating, pickles and sauce. Round 2" yellow and bronze-red apple with some russeting. Firm crisp juicy fine-grained very sweet yellowish flesh. For a growing number of people in central Maine, late September is Chestnut apple time. Always scores high at our Common Ground Country Fair taste tests. A lot of people love this apple. For a few, despite its crispness and depth of flavor, it is too sweet. Chestnut alone with no sugar makes a sweet and subtle sauce. Not a keeper, but can be stored for a month or two. Vigorous, somewhat weeping, medium-sized productive tree tends to bear annually. Disease resistant. Also beautiful in bloom, mid-late season. Z3-6. **ME Grown.**

127A Chestnut, $30.25

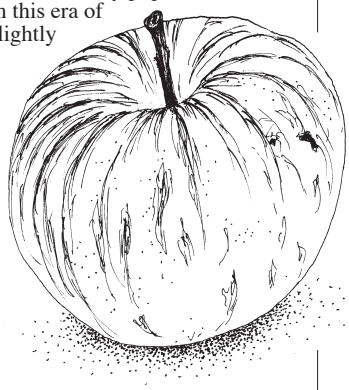
ME Grown = grown in Maine at one of our small local nurseries.

Time to chill

Not only can't you grow mangoes in Maine, you can't grow apples in Tahiti. Temperatures in the orchard can be too cold, and they can also be too warm. Many plants have an internal requirement for a period of cold temperatures before they will break dormancy in the spring. Botanists have attempted to quantify this requirement in hours, called "chill hours" (or sometimes "chill units"). Chill hours are the estimated number of hours between 32° and 45° a plant requires to go dormant in winter, break dormancy in the spring, bloom and set fruit. If an apple tree doesn't get enough chill hours, the flower buds may not open or they may open late in the spring. Leaf production may also be delayed. The tree will be very unhappy. It may just die.

A plant's chill-hour requirement is not something we in the North need to be too concerned about. All our fruit varieties fulfill their chilling requirement by early winter. At Fedco Trees, our chill alarm goes off when a Zone 9 southern customer orders a Black Oxford or Northern Spy. Most apple varieties need 500–1,000 chill hours. Some more, some less. There are a few apples with weirdly low chill requirements that will grow in warm weather areas. Apples such as Anna, Ein Shemer and Golden Dorset require only a few dozen chill hours. So cheer up, Floridians.

Cortland Fall-Winter. Ben Davis x McIntosh. NY Stn, 1915. Although never as important as McIntosh, Cortland remains very popular throughout northern New England even in this era of many new introductions. Medium-large slightly ribbed dull red fruit with a purple blush. Excellent eating and cooking. Slow-oxidizing white fine-grained crisp tender juicy flesh: very good in salads. Produces a surprisingly delightful cider, fresh or fermented, in a mix or even on its own. Stores for a month or so. Vigorous tall upright spreading tree. Annual producer of heavy crops. A recent UMass study showed Cortland's resistance to apple maggot fly. Bears young; remove fruit for the first year or two to avoid stunting growth. Susceptible to scab. Blooms midseason. Z4. **ME Grown.**



130A Cortland, $30.25
130C Cortland on M111, $30.25
130D Cortland on B9, $30.25

Cox's Orange Pippin Fall. Possibly a seedling of Ribston Pippin. Near Slough, Bucks, England, around 1825. Deservedly one of the three or four most famous of all apples. Not only one of the best eating apples ever but also one of the most sought-after in modern apple breeding; parent or grandparent of many other varieties. Revered in the U.K. Medium-sized all-purpose aromatic fruit is red-orange to red with orange russet striping and wash. Perfectly balanced slightly subacid flavor and crisp juicy tender flesh improve with storage. Moderately vigorous moderately productive tree bears young and annually. Prefers cooler climates and higher pH (6.5–7.5+). The oldest Maine Cox's I know is about 40, thriving in Mercer, Zone 4. Scab resistant. Blooms midseason. Z4. **ME Grown.**

131A Cox's Orange Pippin, $30.25
131B Cox's Orange Pippin on B118, $30.25

Deane Fall. Cyrus Deane intro, Temple, ME, about 1858. Also called **Nine Ounce**. Large beautiful juicy subacid all-purpose fruit. Very white fine-textured melting flesh has the consistency of a perfect Mac but with none of the scab. Cooks up pretty quickly into a gorgeous orange-apricot–colored coarse slightly loose sauce. Medium to large fruit—mostly oblate, mottled with light red and pink stripes and blushed red with a russet splash around the stem—weighs exactly 9 ounces. (No guarantees.) Looks a bit like a cross between Northern Spy and Duchess. Maybe it is. Ripens around Oct. 7 and keeps for a month. Four ancient trees are still fruiting on Tory Hill in Phillips, ME, not far from Temple where the Deane family hid escaped slaves en route to Canada. Now on trial in many Maine locations. Blooms early-midseason. Z4. **ME Grown.**

133C Deane on M111, $30.25

Winter apples and the root cellar

Some apples reach their prime only after several weeks of storage. Many of these keep beautifully for six months or longer in the root cellar. We pick these winter-keeping apples as late as we dare—around Halloween in central Maine—when the night temperatures are about 26°. Colder and the apples could be ruined. We put the apples in wooden bushel boxes, set them in the root cellar and sort through them now and then for the occasional bad apple.

Varieties classified as "winter" in our catalog are those best for root cellaring. Although some fall apples store okay, it is the winter varieties that keep the best. Among the most famous keepers in Maine are Black Oxford, Baldwin, Northern Spy and Roxbury Russet. Two of our personal root-cellar favorites are Cherryfield and Redfield. Goldrush and Keepsake are real season extenders, lasting till May and July, respectively. We use the keepers for sauce, pies, baking and fresh eating. You may have noticed that we mention applesauce in many of our descriptions. With apples from the cellar, you can make a small pot of sauce everyday, rather than canning or freezing it in big laborious batches. The winter apples keep us in a steady stream of peak flavor well into spring.

We store our potatoes, cabbages, celery, leeks, carrots and beets right alongside the apples. In a well-designed cellar with steady low temps (ideally 32–40°) and high humidity (about 80%), foods retain their nutrients for months. A root cellar can be dug into a hillside or be part of your basement. The walls and ceiling need to be well insulated and rodent proof. Big vents and/or outside doors are important. You want to infuse your cellar with cold fall night air to bring down the cellar temp as fast as possible. Open it at night and close it during the day. Once the room is in the high 30s, close it up for the winter.

Our 6x9' cellar can fit more than 40 bushels of food. We've had it for 40 years, and it's still perfect, although we've replaced the double doors a couple of times and a shelf here and there. It should be functional for another two or three hundred years.

Esopus Spitzenburg Fall-Winter. Esopus, NY, before 1776. For more than 200 years "Spitz" has been a choice dessert and culinary variety, mentioned in nearly every list of best-flavored apples. Slightly subacid, crisp and juicy. Excellent acid source for sweet or fermented cider. Medium-large bright red round-conic fruit, covered with russet dots. Moderately vigorous tree with easily trained wide-angle branches. Forever famous as Thomas Jefferson's favorite apple though it vastly prefers New York and New England to Virginia. Moderately susceptible to scab though we have never sprayed ours with fungicides and the fruit has been great. Blooms mid-late season. Z4. **ME Grown.**

136A Esopus Spitzenburg, $30.25
136C Esopus Spitzenburg on M111, $30.25

Fameuse Early Fall. Parentage unknown. Canada, before 1700. Also called **Snow**. Excellent fresh eating, great sauce and sharp cider apple. Alas, however, not a pie apple—turns to soup. The 1865 Department of Agriculture yearbook sums it up: "Flesh remarkably white, tender, juicy…deliciously pleasant, with a slight perfume… No orchard in the north can be counted as complete without this variety… It is just so good that everybody likes to eat of it; and when cooked, it is white, puffy, and delicious." Medium-small roundish ruby-red thin-skinned fruit. Keeps until late December. Famous in Maine for well over 200 years. As one of the few apples that comes relatively true-to-type from seed, occasional "variations on a Fameuse theme" can be found in old orchards. Recent discoveries suggest that it could be one of the oldest varieties in North America. (For more details, you'll have to check out John's new book!) Thought to be a parent of McIntosh. Productive long-lived tree. Susceptible to scab. Blooms mid-late. Z3. **ME Grown.**

138A Fameuse, $30.25

Frostbite Fall-Winter. MN 447. Parentage unknown. First fruited in 1921; named and introduced by the U Minn in 2008. A massively flavored dessert apple, the one we most look forward to on our farm each fall. Likely the most distinctive, complex and unusually flavored apple you'll ever try. Astonished eaters have described it as tasting like molasses, olives, sugar cane, cheap whisky, yogurt, tobacco juice, and so on. We love it. The aromatic crisp crystalline apricot-orange flesh, with its occasional red staining, is so juicy it might run down your hand. The roundish fruit is medium-sized and entirely covered with dark bluish-purple stripes. Lost in the dustbin of weird apples for nearly 90 years before it was finally named and released. Extremely hardy, productive and reliable; at its best in colder districts. One of the parents of the popular Sweet Sixteen. Blooms midseason. Z3. **ME Grown.**

140A Frostbite, $30.25
140C Frostbite on M111, $30.25

Golden Russet Winter. Uncertain origin. Thought to be from England, New York or New England, before 1800. Round medium-sized russet fruit. Excellent eating; keeps all winter and well into spring. One of the best apples dried. The champagne of cider apples, ripening late in fall when the best sweet cider is ready to be made: sweet, balanced, thick and smooth. Also recommended as a sharp component for fermented cider. For more than 100 years, orchardists have been attempting to sort out the various russets. Several different apples have been called Golden Russet. Most resemble one another visually but differ in fruit qualities and tree habits. This is most likely the Golden Russet of western New York. Vigorous diverging upcurving tree with long willowy branches. Scab resistant. Blooms early to midseason. Z4. **ME Grown.**

142A Golden Russet, $30.25
142C Golden Russet on M111, $30.25

GoldRush Winter. Coop 38 {PRI 2750-6=[Coop 17 (PRI 1689-100) x Golden Delicious]}. PRI Coop, 1994. The first of the new disease-resistant varieties from the Purdue-Rutgers-Illinois apple breeding program to have superior storage qualities. Not only that, it's probably the best-tasting apple to come out of that program. Medium-to-large round-conic fruit has uniform deep greenish-yellow opaque chewy skin that turns golden in storage. Creamy white green-flecked flesh is hard, very crisp, juicy and tart. Excellent flavor. Serve them for dessert in February and March and no one will be disappointed. Becoming very popular with cidermakers. Ripens late but successfully in central Maine. Keeps until May in the root cellar. Highly resistant to scab and powdery mildew. Moderate fireblight resistance. Blooms midseason to late. Z4. **ME Grown.**

143A GoldRush, $30.25

Gravenstein Late Summer. Thought to be of Russian, Italian or German origin, before 1700. Brought to the U.S. in the early 19th c. Probably the most famous of all pie apples. Rightly so. It's great. By 1880 it was also the most popular summer apple in Maine, especially along the coast. Fruit is medium to large, irregularly round, asymmetrical, usually ribbed. Thin tender skin, striped with yellow, red and orange. Tender crisp aromatic richly flavored juicy firm tart flesh. Outstanding eating and cooking. Rated "very good to best" by Beach in *The Apples of New York*. Still commonly grown in Nova Scotia, northern California, Oregon and Washington. Large vigorous productive tree with a nearly perfect wide-angle branching habit that requires practically no training. Ripens over several weeks. Too tender for coldest areas of New England. Triploid: not suitable for pollinating other varieties. Blooms early. Zone 4 or 5. **ME Grown.**

144A Gravenstein, $30.25

Gray Pearmain Fall-Winter. Probably Skowhegan, ME, before 1870. Absolutely delicious dessert (fresh eating) apple with a distinct pear flavor and firm white juicy mildly tart flesh. Steadily gaining a devoted following. Medium-sized slightly ribbed and muffin-shaped fruit has a soft opaque greenish-yellow skin with a rosy pink blush, a russet veil, and a greyish bloom. Produces excellent juice. Pick late and eat them in the fall and all winter. Until recently the only trees we knew of were at The Apple Farm in Fairfield, across the line from Skowhegan. Through the generosity of the Meyerhans, the Gray Pearmain is now grown throughout Maine and beyond. Annually bearing easy-to-grow medium-sized spreading tree. Blooms midseason. Z4. **ME Grown.**

145A Gray Pearmain, $30.25

Grimes Golden Fall. Parentage unknown. West Virginia, 1804. Tart citrusy crisp dense firm fruit is excellent for both dessert and cooking: wonderful spicy fresh eating, pies, applesauce and cider. Medium-sized roundish fruit with opaque yellow skin scattered with grey russet dots and an occasional faint blush. All-around excellent variety grown in old Maine orchards for more than 100 years. This is a perfect apple for the New England homestead north to about Bangor. An added bonus is that the fruit doesn't ripen all at once. In central Maine they begin to drop in mid-October. We collect them off the ground and use them right up. Then around Halloween we pick the bulk of the crop to store in the root cellar until late winter. One of John Bunker's top five favorite apples. Productive precocious tree. Blooms mid-late season. Z4. **ME Grown.**

146A Grimes Golden, $30.25
146B Grimes Golden on B118, $30.25

Honeycrisp Winter. MN 1711 (Keepsake x open-pollinated) U Minn, 1991. Medium-large fruit, mottled and striped red over yellow. Sweet and juicy with hard snapping-crisp texture. Top quality in September. Improves steadily in storage. Unusual because it ripens in early fall yet keeps up to 7 months in the root cellar. First of the many excellent University of Minnesota introductions to receive large-scale commercial attention, now has a huge following. Our best-selling apple. Probably best planted north of Massachusetts; less suited to warmer districts. Tends towards annual bearing. Relatively small low-vigor upright spreading tree. Above-average scab resistance. Blooms mid-late season. Z3. **ME Grown.**

149A Honeycrisp, $30.25
149C Honeycrisp on M111, $30.25
149E Honeycrisp on V1, $30.25

Hudson's Golden Gem Fall. AD Hudson's Wholesale Nurseries, Tangent, OR, 1931. A wild seedling discovered in a fence row and introduced soon afterward. A truly fine dessert variety of unique appearance and exceptional flavor. Sweet juicy crisp smooth firm-but-melting yellow pear-like flesh. Highly recommended for those who love to eat their apples out of hand. Nearly everyone loves the flavor after a single bite. Magnificent medium-to-large distinctly conical and beautifully russeted long-stemmed fruit. Skin a soft yellow-tan overlaid with a fine weave of light and dark browns. A local favorite in Oregon, more recently gaining notice practically everywhere apples are grown. Stores several months. Productive scab-resistant tree. Also resists powdery mildew and fireblight. Blooms mid-late. Z4. **ME Grown.**

151B Hudson's Golden Gem on B118, $30.25

Cammy's Favorite Baked Apples

1/4 cup (1/2 stick) plus 1 1/2 Tbsp unsalted butter, melted
1/4 cup dark rum
1/4 cup apple cider
1/2 cup (packed) golden brown sugar
2 large egg yolks
1 Tbsp cream
2 tsp fresh ginger, peeled and grated
2 tsp flour
1 tsp lemon zest
1/2 cup almonds, finely chopped and toasted
6 pitted dates, chopped
4 Wolf River, Blue Pearmain or other large baking apples
Extra melted butter for basting

• Preheat oven to 350°F.

• Mix 1/4 cup melted butter, rum and cider in an 8x8" glass baking dish.

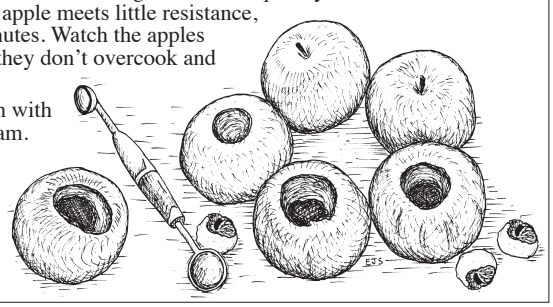
• Mix brown sugar, yolks, cream, ginger, flour, lemon zest and 1 1/2 Tbsp butter in small bowl until smooth. Mix in almonds and dates.

• With a melon baller, scoop out the stem end and core of each apple, being careful to leave the bottom intact. With a vegetable peeler, remove 1" strip of peel from around top of each cavity. Pack the cavities to the top with the almond mixture.

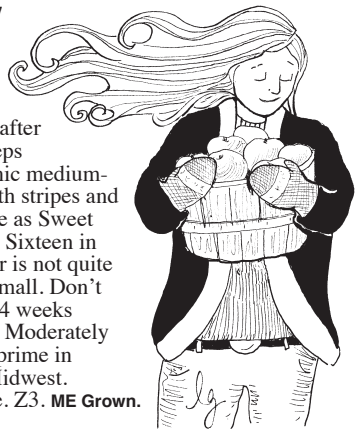
• Arrange apples in dish. Brush surfaces with additional melted butter.

• Roast the apples, basting occasionally with the juices in the pan; cover loosely with foil if the filling browns too quickly. Bake until a tester inserted into apple meets little resistance, about 45 minutes. Watch the apples carefully so they don't overcook and explode.

• Serve warm with whipped cream.



Keepsake Winter. MN 1593. (MN 447 [Frostbite] x Northern Spy). U Minn, 1979. One of the best of all winter storage varieties. Fine-textured flesh is hard, crisp, juicy and sweet. Excellent aromatic flavor, but wait about a month after picking before eating. Well named—keeps until July in the root cellar. Irregular conic medium-sized fruit is almost entirely overlaid with stripes and a wash of very deep red. Same parentage as Sweet Sixteen. Resembles Frostbite and Sweet Sixteen in appearance and taste, although the flavor is not quite as intense. Fruit size can be somewhat small. Don't be afraid to thin the crop each year 3 or 4 weeks after petal fall. You'll be happy you did. Moderately vigorous medium-sized tree reaches its prime in northern New England and the Upper Midwest. Somewhat resistant to scab. Blooms late. Z3. **ME Grown.**



154A Keepsake, $30.25

King David Fall-Winter. Chance seedling, thought to be Jonathan x Arkansas Black, Washington County, Arkansas, 1893. Stark Brothers Nursery intro, 1904. King David has a reputation as an intensely flavored apple. It may be the most flavorful apple I've ever eaten. The initial bite is an explosion of flavors—pineapple, tangerine, lemon, sweet, sour, tart, sharp, aromatic and spicy. You may wince or moan or scream. You may see stars. Fine juicy flesh is firm yet tender and distinctly yellow. Known primarily as a dessert apple, but also good for pies and sauce. Medium-sized round-oblate-conic fruit is very dark solid maroon—nearly black. Occasionally found in old Maine orchards. The tree is vigorous, bearing young and regularly. Ripens in fall and keeps until the beginning of the year. Its one drawback is scab susceptibility. We grow it anyway. Blooms early midseason. Z4. **ME Grown.**

156A King David, $30.25

King of Tompkins County Fall. Unknown parentage. Discovered on Musconetcong Mt, Washington, NJ, before 1800. Originally called **Toma Red**. Also called **Tompkins King** or simply **King**. Old Maine favorite for eating right off the tree in October, as well as for sauce and fresh cider. Crisp yellow flesh, juicy, tender, coarse with balanced flavor. Large to very large round-blocky dark orange-red fruit. The name is deceiving. It originated in New Jersey, later brought to Tompkins County, NY, where it picked up the name we know and its great reputation. Soon spread throughout the Northeast becoming popular whenever it was grown. Old trees can still be found in central and southern Maine. One of the reasons for its name must be its incredible vigor and productivity. Young grafted trees outgrow all others. When I topworked a wild tree at our place, it grew 4' the first year! Keeps till January. Blooms midseason. Z4. **ME Grown.**

157A King of Tompkins County, $30.25

Fedco Cider T-shirts: "It's Always OK to Be Bitter"
Celebrate your favorite fall drink with our popular cider T-shirt, featuring John Bunker's full-color paintings of ten of the most famous English, French and American cider apples. Printed in Maine at Liberty Graphics.

Crewneck T-shirts These are standard relaxed-fit tees. 100% organic cotton grown in the U.S. Natural off-white, except 3XL, which is white.

L667: *Crewneck T-shirt, $22.50*
***A**: small natural* ***B**: medium natural*
***C**: large natural* ***D**: x-large natural*
***E**: 2x-large natural* ***F**: 3x-large white*

Fitted T-shirts Trim fit style with scoop neck, made from soft 100% cotton. Light-grey color, except XL, which is white.

***L668**: Fitted T-shirt, $22.50*
***A**: small grey* ***B**: medium grey*
***C**: large grey* ***D**: x-large white*

"I've been ordering trees and shrubs and plants from Fedco for a decade as I transform my yard into good habitat from what had been all asphalt…Thank you for providing such a wide selection of hardy, healthy (and affordable) plants."
–Linda Wooster, East Burke, VT

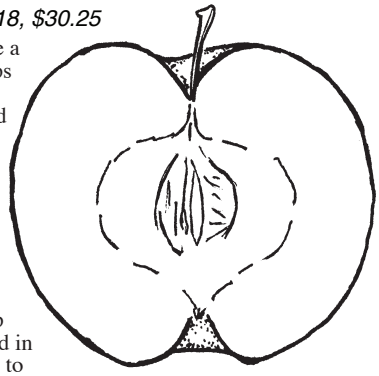
Liberty Late Summer-Fall. NY 55140-19 [Macoun x PRI 54-12 (PRI Co-op complex cross includes Rome Beauty, Jersey Black, McIntosh, Wealthy and M. floribunda)] NY Stn, 1978. One of the best of the disease-resistant varieties, particularly in the Northeast. Somewhat similar to Macoun. Handsome medium-sized round-conic bluish-pinkish-red apple with crisp white flesh of very good dessert quality when dead ripe. Excellent cooking and sweet cider, too. Recommended for single-variety sweet cider. Keeps till late fall. Begins fruit production at an early age, bearing consistent heavy annual crops. Naturally well-structured sturdy tree is easy to care for. Considered to be 100% scab-immune, though not resistant to insects or other lesser apple diseases. Don't let it crop too heavily at a young age. Blooms early to midseason. Z4. **ME Grown.**

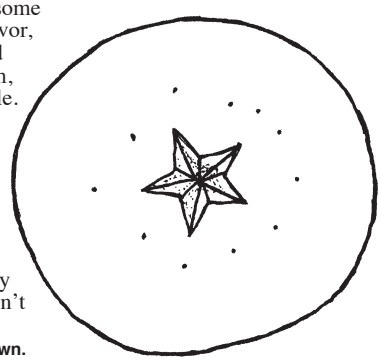
158A Liberty, $30.25
158B Liberty on B118, $30.25
158D Liberty on B9, $30.25

Martha Late Summer-Early Fall. Excelsior, MN, about 1879, by Peter Gideon, best known for his famous apple Wealthy. Classic heirloom crab with high-quality beautiful bright rosy-red 2" fruit for fresh eating and cooking. Yellowish flesh is coarse, crisp, juicy and quite delicious. "They have this amazing sweet and tart flavor, they're super crunchy, and they're the perfect snack size," said Heather Davis. Also suitable for jellies, jams and other cooking. Medium-sized tree is annually bearing, extremely long-lived and hardy. Jason Davis of Cayford Orchards in Skowhegan, ME, introduced us to their old Martha trees many years ago. The crab has been part of his family's orchard for generations. Thanks to Jason and Heather for providing the scionwood. Blooms midseason. Z3. **ME Grown.**

163B Martha on B118, $30.25

McIntosh Fall. Thought to be a seedling of Fameuse or perhaps St. Lawrence. Dundela, Ontario, 1811. First discovered by John McIntosh on his farm near the St. Lawrence River. Originally called Granny's Apple, then McIntosh Red, sometimes Gem, and finally McIntosh or simply Mac. Beginning in about 1930, the most important apple in the Northeast until Honeycrisp appeared. Although not planted in many other locations, it grows to perfection in our cool climate. There are many strains of McIntosh, some selected for traits other than flavor, and the variety has gotten a bad reputation. Despite the criticism, this is a delicious aromatic apple. The strain we offer has green ground color overlaid with red stripes and blush. Excellent for sauce but turns to soup in a pie. Annual cropper. Large beautifully rounded spreading strong easily managed tree. Beware, however: it's extremely susceptible to scab. It also doesn't keep well in ordinary storage. Blooms midseason. Z4. **ME Grown.**

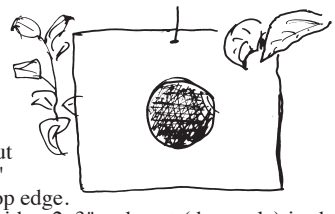




164A McIntosh, $30.25
164C McIntosh on M111, $30.25
164D McIntosh on B9, $30.25

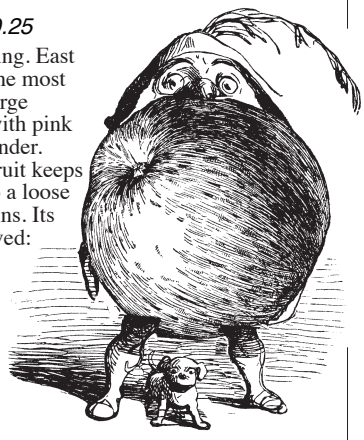
ME Grown = grown in Maine at one of our small local nurseries.

Apple Maggot and plywood
The late Don Johnson made nifty apple maggot traps. We've gotten into doing so ourselves. In small orchards, the traps alone may be enough to reduce the AM pressure to a tolerable level. Here's how: Cut up plywood (3/8" or 1/2") into 8x11" rectangles. Drill a hole along the top edge. Paint the plywood bright yellow with a 2–3" red spot (the apple) in the center. Coat with Stiky Stuff (an adhesive found at fedcoseeds.com/ogs) and hang three in each tree in mid-June, positioning the traps at about chest height. Trim away any foliage that might stick to the trap. Check for AM flies. Now and then, when they get too gooky, scrape the traps and add new Stiky Stuff. Remove traps around Labor Day.



Milo Gibson Late Fall-Winter. Uncertain origin. Milo Gibson intro, Linnton, OR, before 1975. Originally called Linnton. Intensely flavored unusual dessert variety, in the same class as Frostbite, Hudson's Golden Gem, Sweet Sixteen and Wickson. In a good year, the dense juicy flesh can be unmistakably licorice flavored. Good enough to win late fall taste tests. Still firm and flavorful in late December. Medium-large roundish fruit, partly greenish-yellow with a orange-red blush and an assortment of russet patches and netting. Presumably a wild seedling discovered by Gibson (1905-1974) one of the founders of The North American Fruit Explorers (NAFEX). A year after his death at the annual NAFEX meeting in Geneva, NY, his close friend Fred Ashworth organized the effort to change the apple's name to honor the long-time fruit explorer. Blooms midseason. Z4. **ME Grown.**

166B Milo Gibson on B118, $30.25



Northern Spy Winter. Chance seedling. East Bloomfield, NY, about 1800. One of the most famous of all heirloom apples. Very large delectable all-purpose fruit, covered with pink and light red stripes. Very juicy and tender. Even when the thin skin bruises, the fruit keeps extremely well. Cooks up quickly into a loose mild sauce. No need to remove the skins. Its reputation as a pie apple is well deserved: makes a very good single-variety pie! Recommended as a source of sharp juice in cider. Its one drawback is being slow to come into bearing, although for us it's been worth the wait. Medium-to-large moderately vigorous long-lived tree. Good scab resistance. Leafs out late and blooms late season. Z4. **ME Grown.**

171A Northern Spy, $30.25

171C Northern Spy on M111, $30.25

Red Astrachan Summer. Thought to be from Astrakhan on the Black Sea, prior to 1800. The standard Maine summer cooking apple for generations. Still found occasionally in old Maine dooryards. Juicy rich subacid white flesh frequently tinged with red makes a highly colored sauce. Especially loved for its distinctive flavor in pies. Medium-sized somewhat oblate fruit, splashed or sometimes solidly covered with dark red. An obvious russet patch surrounds the stem. Looks like a junior version of a Wolf River. Fruit ripens over a period of several weeks in midsummer, making it perfect for the home orchard and lousy for the commercial folks who want them all at once. After finding its way to Sweden, the apple traveled to England and finally to Massachusetts in 1835. From there it quickly spread throughout New England and beyond. Very hardy. Keeps for a few weeks with refrigeration. Blooms early. Z3. **ME Grown.**

178A Red Astrachan, $30.25

Redfield Fall. Wolf River x Niedzwetzkyana. NY Stn, 1938. One of the best and largest of the red-fleshed apples. Although usually considered too tart for eating out of hand, the medium-large fruit with opaque solid rusty-red skin is absolutely great in pies, makes wonderful jelly and turns sauce and cider red. We love this apple. Gained fame in the hard-cider world thanks to the wonderful single-variety Redfield cider and Redfield blends made by the late Terry Maloney of West County Cider. Very sharp and bitter in cidermakers' lingo. (SG 1.052) Flesh is two-toned: deep pink fading to white around the core. The flowers are also two-toned, deep pink, tipped with small white lightning bolts. And the bronze-red foliage adds further interest all season. Bears young, annually, and shows some insect resistance in our trials. One of the very first to bloom each year. Z3. **ME Grown.**

179A Redfield, $30.25

179C Redfield on M111, $30.25

Rhode Island Greening Fall-Winter. Green's Inn, near Newport, RI, about 1650. Also known as **Greening**. The classic New England cooking apple. Large roundish-conic-oblate green fruit often has a tannish blush. Light yellow-green flesh is crisp and tart. Great for pies, also excellent for fresh eating. The number one green apple for a few centuries before Granny Smith arrived from Down Under and stole the show. The most well-known of the various Greenings. Because of its high-quality fruit and adaptability to a range of soil conditions, Rhode Island Greening established itself as one of the most important commercial varieties throughout the Northeast in the 19th c. Keeps well into winter. About as hardy as Baldwin. Old trees can still be found in central Maine. Not recommended for northernmost districts, but cooks everywhere else will love it. Blooms late season. Z4. **ME Grown.**

182A Rhode Island Greening, $30.25

Roxbury Russet Winter. Roxbury, MA, early 1600s. Said to be the first named American apple variety. One of the best late-winter dessert apples—it would be hard to live without a stash of them in our root cellar. Our favorite for winter sauce. Hard medium-large patchy green and russeted fruit not uniform in size, shape or color. Rich, spicy and juicy. Exceptional sauce. Dried, it's nice and tart with a pleasant first sensation and a lingering good aftertaste. The aromatic juice has potential for cider, fresh or fermented. Medium-to-large vigorous spreading tree. One of the most popular commercial apples of the 19th c., largely because it can store until summer. Scab resistant. Blooms midseason. Z4. **ME Grown.**

185A Roxbury Russet, $30.25

185C Roxbury Russet on M111, $30.25

Sweet Sixteen Fall. MN 1630 (MN447 x Northern Spy) U Minn, 1979. The first bite into a Sweet Sixteen is always a surprise. Fine-textured crisp flesh contains an astounding unusually complex combination of sweet, nutty and spicy flavors with slight anise essence, sometimes described as cherry, vanilla or even bourbon. We always love Sweet Sixteen season. Truly excellent fresh eating, although it is too sweet for some palates. Also good for pies and sauce. Round-conic bronze-red medium-sized fruit, striped and washed with rose-red. Annual bearer if thinned. Very hardy moderate-sized vigorous vase-shaped tree grows upright with willowy branches that get loaded with fruit but do not break. Best grown in northern districts. Keeps till midwinter. Some resistance to scab. Blooms mid to late season. Z3. **ME Grown.**

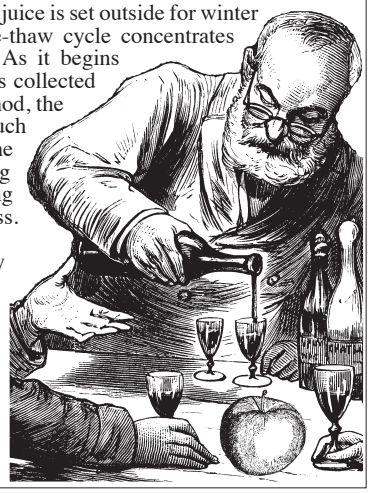
190A Sweet Sixteen, $30.25

Ice cider

"Ice wine, as every drinker knows, is sweetness made from stress."
–Adam Gopnik

Freezing apples or juice to ferment into cider is not an entirely new idea although the process has become much more refined in the last 30 years. In the 1990s, Quebec cidermakers started making a unique product called Cidre de Glace. The trend caught on and soon orchardists in northern New England were also experimenting with ice cider. To technically be considered ice cider, it must have a brix reading of 30 or above with an alcohol content between 7-13%. It is more like an after-dinner dessert wine with a balanced apple flavor, than a traditional cider.

Unlike hard cider, which relies on bittersweet apples, the best ice ciders are made from a blend of cooking, dessert and traditional cider apples. There are two mehods for making ice wine: cryo-extraction and cryo-concentration. Extraction involves freezing the apples (or waiting to pick them until they freeze on trees) and partially melting them to press into cider. The more common method is concentration, where apples are pressed and the juice is set outside for winter months. Winter's natural freeze-thaw cycle concentrates the sugars away from the ice. As it begins thawing, the first juice to melt is collected for fermentation. For either method, the resulting juice is fermented much like traditional hard cider. The most challenging step is stopping the fermentation and stabilizing the cider before it reaches dryness.



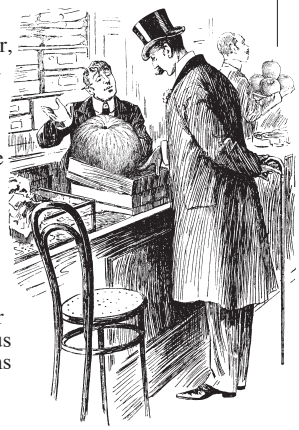
If you live in a climate where the winter temperatures regularly go below 10° and want to make ice cider, instructions and tips can be found in Claude Jolicoeur's *The New Cider Maker's Handbook* or in *Apples to Cider* by April White and Stephen Wood. You can also make ice wine using grapes!

Tolman Sweet Fall-Early Winter. Sweet Greening x Old Russet. Dorchester, MA, before 1700. Sometimes called **Talman Sweet**, **Taulman Sweet**, **Tomey Sweet** and many variations. One of the first American apples and one of the few to remain popular for centuries. Truly an all-purpose fruit, used for cider, cooking, dessert and even animal fodder. Once popular for pickling, boiling and baking. Especially prized in Maine for apple cake. Unforgettably peculiar sweet strange flavor. Very low acidity. Moderately juicy medium-sized greenish fruit, sometimes with a bit of a blush and often marked by a suture line running from stem to stern. Long-lived heavy-bearing vigorous tree. Still often found throughout central and southern Maine. Blooms midseason. Z4. **ME Grown.**

192A Tolman Sweet, $30.25

Trailman Summer. Trail x Osman. Beaverlodge Research Farm, Alberta, Canada, 1973. In spite of its small size, this is an exceptionally delicious fruit for fresh eating. Spicy sweet crisp crunchy golden-yellow flesh. Visitors who try it in our orchard usually fall in love with it instantly. Some have called it the best summer apple they've ever tasted—some even call it their favorite apple of any season! Ripens around Aug. 20 in central Maine. Translucent yellow skin has a porcelain finish, white bloom and sometimes a brownish-red blush. Fruit the size and shape of an egg. Hangs on the tree for 2 weeks without softening. Precocious, annually productive, moderately vigorous, somewhat drooping and spreading tree. Exceedingly hardy. Might be tasteless south of Zone 6. One of the first to bloom each year. Zone 3 or even 2. **ME Grown.**

193B Trailman on B118, $30.25



Wealthy Fall. Cherry crab seedling. Excelsior, MN, 1860. A Maine native of sorts, the seed having come from Bangor. Superb all-purpose fall apple, one of the most famous of all hardy varieties. With its perfect texture and complex flavors, Wealthy is considered to be one of the best apples. We agree. Round-oblate medium-sized fruit is pale greenish-yellow streaked with carmine. About as firm as McIntosh. Tender very juicy sweet subacid flesh is white, often stained red. Good eating and even better cooking. Wonderful pies! Good acid source for fermented cider. Ripens over a long period. Productive moderately vigorous long-lived naturally small-statured tree. Blooms early. Z3. **ME Grown.**

198A Wealthy, $30.25

Wickson Fall. Esopus Spitzenburg x Newtown Pippin. Albert Ette intro, Humboldt County, CA, 1944. One of the most intensely flavorful apples we list. Small roundish bright red fruit is crisp, juicy, tart, tangy and spicy. Extremely high in both sugar and acid. Sugar level of the juice is around 25%. Highly recommended for dessert. Keeps until January. Becoming one of the most sought-after American cider apples, both for blending and as a single varietal. In September the tree looks like a mass of cherries. Bred and introduced by the generally unknown Albert Etter, one of America's most innovative and important fruit breeders of the 20th century. Wickson bears young, heavily and most years. Blooms midseason. Z4. **ME Grown.**

200A Wickson, $30.25
200C Wickson on M111, $30.25

Williams Pride Summer. Co-op 23 [PRI 2845-1=(PRI 1018-101 x NJ50)] PRI Co-op, 1988. Probably the most popular summer apple among the newly developed disease-resistant introductions. It's actually crisp, which is rare for a summer apple. Deep purple roundish-conic irregularly shaped fruit highlighted with areas of glowing rosy red and covered with a thin bloom. Light cream-colored flesh with red staining just under the skin. Firm, crisp and very juicy. Has a nice acidic blend of tart and sweet, reminiscent of Fameuse. Long ripening period means you don't have to eat them all at once. Vigorous annually bearing tree with some biennial tendency. Well shaped with strong right-angled branches that do not require careful training. Highly resistant to fireblight, cedar apple rust and sooty blotch; resistant to powdery mildew. Scab immune. Blooms early to midseason. Z4. **ME Grown.**

201A Williams Pride, $30.25

Winn Russet Winter. Possibly a seedling of Roxbury Russet. John Winn intro, Sweden, ME, early 19th c. An exceedingly rare and beautiful russet for the root cellar. Medium-large roundish-blocky-truncate fruit covered with a rich orange-opaque russet, sometimes accentuated with faint red radiating stripes. Tart dry yellowish flesh, should make superior cider. John Winn, one of the first white settlers of Sweden, ME, is thought to have grown this apple from seed he brought over from Massachusetts. *Maine Farmer* reported in April 1854 that "Win Russet [sic] … is a native and good apple, but requires a little more trial to establish the whole character of it." Now on trial on our farm in Palermo and the Maine Heritage Orchard in Unity. Our scionwood comes from an ancient tree on the long-abandoned Winn farm at the base of Winn Hill in Sweden. Rediscovered with the help of Tara and Nat Peirce and Greg Marston. Keeps until May. Uncertain bloom time. Zone 4 or maybe 3. **ME Grown.**

204A Winn Russet, $30.25

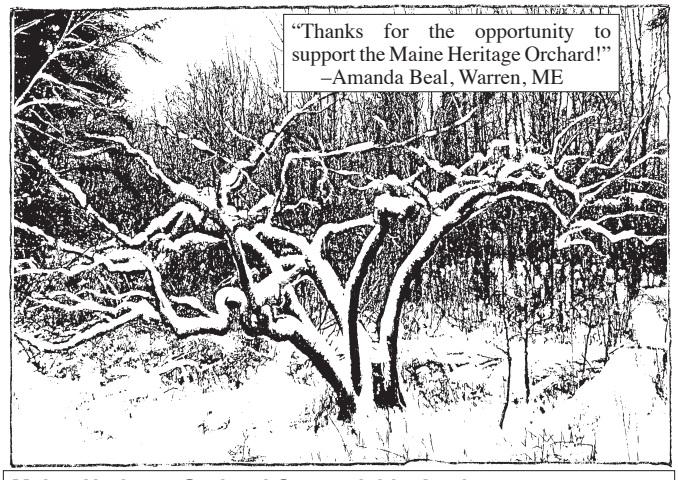
Hot off the Press!

Apples and the Art of Detection: Tracking Down, Identifying and Preserving Rare Apples by John Bunker, 2019. 407 pages, softcover. I've been listening to John Bunker talk about apples for as long as I can remember. The old varieties and why we should rescue them, the Johnny Appleseeds of America, and the shocking truth that you can't plant an apple seed and expect to get the same apple (gasp!). Because I'm an editor, I had the honor of contributing to my brother's masterpiece: *Apples and the Art of Detection*. I realized right away that this book, brilliantly framed as a Sherlock Holmes detective story, belongs not only on the shelf of anyone interested in apples; it is also for those who want to learn about the old-timey experts behind the scenes. In other words, John's mentors. We are introduced to these salt-of-the-earth characters and their apple orchards, and we fall in love with all of them. As a layperson, I especially enjoyed those sections, but I was also impressed with the precision and eloquence with which the science is presented. *Apples and the Art of Detection* has photographs and artwork galore, and is beautifully illustrated by the author himself. –Emily Bunker

L669A Apples and the Art of Detection, $30.00

The Apples of New York by Spencer Ambrose Beach, 1905. 2-volume set, 764 pages, hardcover. This two-volume encyclopedia of apples grown throughout the U.S. before 1900 is an essential text for apple enthusiasts. I refer to Beach almost every day of the year. Don't be misled by the name—it's not just about New York. Although it misses many of our obscure local varieties, Beach covers hundreds of the most important historic varieties you'll come across. It's not a searchable key, but it is fantastic with good-to-excellent histories, detailed descriptions and color images. Volume one includes a general history of apples and an explanation of relevant terminology related to apple identification. Original sets of *The Apples of New York* are still out there although prohibitively expensive for most folks. We're offering a very decent hardcover reprint—good for those who want to go easy on their first editions, and great for those who can't lay out the big bucks for an original. No need to wait until spring to receive *The Apples of New York*. We'll ship it within a few weeks of receiving your order. –John Bunker

L670A The Apples of New York, $175.00



"Thanks for the opportunity to support the Maine Heritage Orchard!" –Amanda Beal, Warren, ME

Maine Heritage Orchard Stewardship Apple The Maine Organic Farmers and Gardeners Association (MOFGA) recently established the Maine Heritage Orchard in a renovated gravel pit in Unity. The terraced polyculture orchard will be unlike any orchard anywhere. Nearly 300 apple trees have been planted so far with many more to come. You can join in this effort by becoming an Apple Steward. By purchasing a Heritage Orchard Stewardship Apple, you become the proud keeper of one of the varieties represented in MOFGA's orchard. In the event that the orchard's tree dies, you'll have the backup so we can collect scionwood for grafting another. We'll send you a rare historic apple tree with a description if it's not listed in this catalog, and a form to fill out. After planting your tree, you return the form with the tree's location to MOFGA. MOFGA will contact you from time to time. $30 from the sale of each tree goes to support the Maine Heritage Orchard (MeHO) project. For more information go to mofga.org. All trees best grown from Z4-6. **ME Grown.**

267A Stewardship Apple, $50.00

Wolf River Fall. Alexander seedling. Near Wolf River, WI, 1875. Perhaps the most famous old-time apple in Maine, likely due to its catchy name and its extremely large—even huge—round-oblate fruit. Pale yellow-green skin mostly covered with pink, deep red and bright crimson with a vivid yellowish-greenish russety splash around the stem. Creamy-white coarse firm but tender flesh. Aromatic subacid flavor is very good for cooking. Makes an excellent baked apple and a decent pie. Not much good for fresh eating, but particularly tasty when dried. Keeps until late fall. Large moderately vigorous productive spreading tree. Excellent scab resistance. Blooms mid to late season. Z3. **ME Grown.**

205A Wolf River, $30.25

Yellow Bellflower Winter. Parentage unknown. Crosswicks, NJ, about 1742. Large conical pure-yellow fruit does everything well, including keeping all winter in the root cellar. Firm, crisp, moderately fine-grained, rather tender, juicy, aromatic, very good for culinary use and good for fresh eating, especially after it's mellowed for a month or two. Excellent for pies. Applesauce cooks quickly, somewhat coarse, bright glistening yellow with great flavor and chewy skins. We also love it dried: it's balanced and flavorful. One of the first named American varieties and one of the first apples to be grafted and planted in Maine. Incredibly long-lived. When you find a truly ancient apple tree in Maine, there's a pretty good chance it'll be a Yellow Bellflower. Blooms early-midseason. Z4. **ME Grown.**

206A Yellow Bellflower, $30.25

Yellow Transparent Summer. Parentage unknown. Russia, probably before 1800. Brought to the U.S. in 1870 and quickly spread throughout Maine. One of our most-requested varieties. Medium-sized light yellow fruit has a tender skin you can almost see through. Tart fresh eating and cooks up into a flavorful slightly tart light yellow sauce in 6–7 minutes. Skip the sugar. Skins will dissolve in your mouth as you eat. Transparents ripen fairly early in August and beware: they come mostly all at once and go by quickly. Get the sauce pot ready and don't blink or you might miss them. It's okay to eat or cook them a little on the green side. When the first of them fall to the ground, pick the rest within a week or so. Incredibly hardy. Blooms midseason. Z3. **ME Grown.**

207A Yellow Transparent, $30.25

Zestar Late Summer. (State Fair x MN 1691) U Minn, 1999. Also called **Zestar!** Extremely hardy high-quality mid-late summer dessert apple. Medium-sized blocky round fruit covered with red stripes and blush. Juicy and crisp with a well-balanced acid-sweet flavor. Michael Phillips, New Hampshire orchardist and author of *The Apple Grower*, said to me, "When you tree-ripen Zestar, it's fabulous." Northern Maine orchardist Steve Miller added, "That's an impressive apple. From the standpoint of appearance and quality, they're first rate." Keeps in cold storage up to 7 weeks. Tree has moderately vigorous upright form; excellent horizontal branching habit makes it easy to train and prune. Precocious and annual-bearing. Blooms early season. **PPA.** Z3. **ME Grown.**

208B Zestar on B118, $30.25

Heirloom Apple Collections **A bundle of 5, 10 or 25** trees to begin your own heirloom orchard. Each tree in the bundle will be a different heirloom traditionally grown in northern New England. Collections may include varieties not listed in this catalog. Rootstocks will be semi-dwarf and standard. Trees are individually labeled within each bundle. Sorry, collections are not customizable. Please note that purchasing a bundle of 25 will qualify your order for a 15% discount if you order by the discount deadline. See order form, page 35, for details. All hardy to Z4. **ME Grown.**

229A Heirloom Apple Collection, bundle of 5, $136.00
229B Heirloom Apple Collection, bundle of 10, $257.00
229C Heirloom Apple Collection, bundle of 25, $605.00

Where can I taste that apple?

While we take pride in our variety descriptions, there's nothing like the real thing. Frequently we're asked, "Where can I taste a…?" One opportunity is Great Maine Apple Day, Sunday, October 13, 2019, at MOFGA in Unity.

To try more than 20 varieties, sign up for Out on a Limb Apple CSA (outonalimbapples.com) co-managed by Fedco's John Bunker. Members receive biweekly shares of rare apples.

Visit an orchard near you. There are many great orchards out there. Even one or two rare finds can be worth the trip. Below are some Maine orchards with good collections. For a longer list of orchards around the northeast, visit fedcoseeds.com/trees and click on "Resources."

Don't be frustrated if you call and reach no one. Just go. By September most of them are open 6 or 7 days a week.

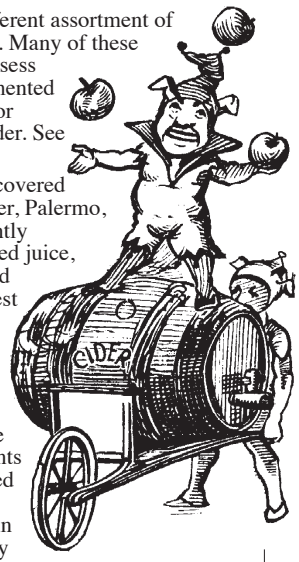
Some orchards in Maine:

- The Apple Farm, Fairfield, Somerset County (207) 453-7656, applefarm.us. A great collection of unusual old and new varieties.
- Bailey's Orchard, Whitefield, Lincoln County (207) 549-7680. One of the largest collections of old varieties in the state. Other fruits, too.
- Cayford Orchards, Skowhegan, Somerset County (207) 474-5200, cayfordorchards.com. 57 new and heirloom varieties of tree fruits.
- Clayfield Farm, East Blue Hill, Hancock County (207) 374-2159, clayfieldfarm.net. Small organic orchard of mixed varieties.
- Doles Orchard, Limington, York County (207) 793-4409, dolesorchard.com. Mix of old and new. They have two un-named varieties crossed by the late Maine plant breeder Russell Bailey. Both are extremely rare, if not unique.
- Lane Road Orchard, New Sharon, Franklin County (207) 272-7684. Many interesting heirlooms and unusual mordern varieties.
- Maine-ly Apples, Dixmont, Penobscot County (207) 234-2043, mainelyapples.com. Excellent collection of old, new and rare varieties.
- Ricker Hill Orchards, Turner, Androscoggin County (207) 225-5552, rickerhill.com. Organic apples and more, mostly modern varieties.
- Rollins Orchard, Garland, Penobscot County (207) 924-3504, rollinsorchards.com. More than 20 unusual old varieties.
- Sewall Orchard, Lincolnville, Waldo County (207) 763-3956, sewallorchard.com. Organic apples including some of the first disease-resistant releases.
- Sweetser's Apple Barrel and Orchards, Cumberland Center, Cumberland County (207) 829-6599, maineapple.com. A great collection of 39 old and new varieties. Don't miss their Rolfe apples.

PPA = Plant Patent Act. Unauthorized propagation of the plant is prohibited. The use of **PPA** in the catalog is for informational purposes only and does not constitute an endorsement by Fedco of plant patenting.

Cider Apples

Each year we offer a different assortment of the best European and American cider varieties. Many of these are NOT for fresh eating. They do however possess qualities that make them very desirable for fermented cider production. Please note the descriptions for details. We also offer crabapples suitable for cider. See the crabapple section on pages 44-45.



Bitter Pew Fall. **Bittersharp** cider apple. Discovered and introduced by John Bunker and Laura Sieger, Palermo, ME, 2015. Mildly acidic, highly bitter and slightly astringent. Not for fresh eating! Strongly flavored juice, recommended for blending. (1.048 SG) Will add complexity and lots of pizzazz to even the dullest cider. Best pressing in the first two weeks of November. At our cider tasting in July 2018, the Bitter Pew cider received unanimous thumbs up. Medium-sized angular conic fruit, deep dark lime green with a purple-red blush and prominent whitish dots. We found the medium-aged multi-stemmed tree in the remnants of an old orchard. When one of the old trees died decades ago, the rootstock sprouted and like a phoenix rose this wonderful tree. Now on trial in multiple locations. Blooms midseason. Probably Z4. **ME Grown.**

231C Bitter Pew on M111, $30.25

Chisel Jersey Late Fall. **Full bittersweet** cider apple. Martock, Somerset, England, 19th c. One of the most famous of the Somerset bittersweets. Best blended with other apples, it makes a strong rich cider. Medium acidity, highly astringent, harsh and high in tannins. (SG 1.068, acidity 2.2g/L, tannin 4g/L) Round to slightly conic slightly greasy fruit, colored with a beautiful combination of dull opaque reds, yellows and russets. In old English *chesil* means 'pebble'—Chisel Jersey is small, hard and bitter! Spreading tree may require encouragement to develop a strong central leader. Consistent cropper. Closely related to Dabinett; they should not be relied on to pollinate one another. One source recommends Harry Masters Jersey as a good companion for pollination, but as usual, most other apples should do the job. Late bloomer. Z4. **ME Grown.**

232A Chisel Jersey, $30.25

Dabinett Late Fall. **Medium-bittersweet** cider apple. Probably a seedling of Chisel Jersey. Middle Lambrook, Somerset, England. (SG 1.057, acidity 1.8g/L, tannin 2.9g/L) One of the most popular cider varieties in Somerset today and one of the mainstays of Poverty Lane Cider Orchards. At a MOFGA workshop, Steve Wood of Poverty Lane and Farnum Hill Ciders said, "If you're going to plant one bittersweet, plant this one." Medium-sized roundish fruit covered with brownish brick-red stripes and blush. Sugar content fair and fermentation moderate. High-quality well-balanced low-acid cider with a soft-tasting tannin. Picked last week of October, usually blended with other late varieties. Crops annually. Grower-friendly tree with flat lateral branches may require help in developing a strong central leader. Not pollen compatible with Chisel Jersey. Midseason bloom. Z4. **ME Grown.**

234A Dabinett, $30.25
234C Dabinett on M111, $30.25

Ellis Bitter Early Fall. **Medium bittersweet** cider apple. Newton St Cyres, Devon, Somerset, England. Particularly useful for its early ripening, adding valuable bitterness to early-season cider pressings. (SG 1.033–1.053, acidity 2g/L, tannin 2.4g/L) Blend with other early dessert apples or cider varieties. Large oddly conic fruit, sometimes ribbed, mostly striped and blushed with red. White-fleshed, sweet, crisp and juicy. Soft, astringent, tannin. Still grown in England's West Country cider orchards and now being planted in the U.S. Fast-growing large upright rangy open vigorous tree produces regularly. Midseason bloomer. Z4. **ME Grown.**

235A Ellis Bitter, $30.25
235C Ellis Bitter on M111, $30.25

Everett Cunningham Fall-Winter. **Bittersharp** cider apple. Seedling. Hibbert's Gore, ME. Quite astringent, not very bitter and mildly sharp. Small to medium roundish-oblate fruit, slightly greasy, mostly yellow with a very large russet patch surrounding the stem. Closely resembles Silver Cup, the English bittersweet; we bet even 19th-c. British apple expert Robert Hogg couldn't tell the two apart. Introduced to us by Karen Keller, who said, "People came from as far as Newport to buy Everett's cider." She calls the apple Behind the Shed; the huge spidery tree is clearly a seedling growing out of the shed foundation wall behind her house. Betty Glidden, who grew up next door to Everett, told Karen: "Why, we just always called them Old Everetts' Cider Apples." Recommended for all cidermakers in colder districts. Uncertain bloom time. Z4. **ME Grown.**

236A Everett Cunningham, $30.25

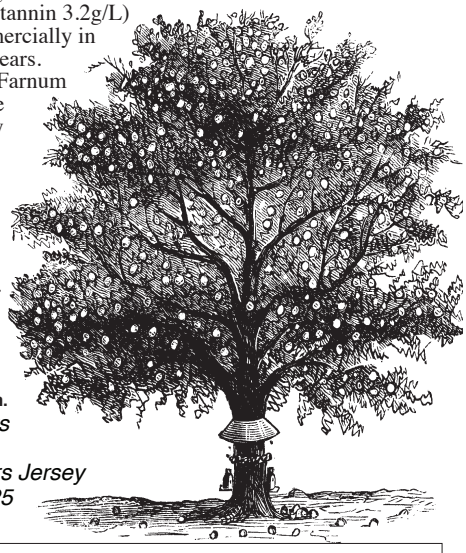
Gnarled Chapman Fall. **Bittersweet** cider apple. Parentage unknown. Eric Shatt intro, Hector, NY, 2015. Large, roundish-oblate and outrageously beautiful. Yellowy-green skin with a glowing orange blush, netted and dotted with russet. Eric named this seedling in honor of America's most famous apple guy, John "Appleseed" Chapman. Vigorous upright tip-bearing tree. Recommended for trial in all cider-apple growing districts. Blooms midseason. Z4. **ME Grown.**

238C Gnarled Chapman on M111, $30.25

Harrison Mid-Late Fall. **Vintage sharp** cider apple. Parentage unknown. South Orange, Essex County, NJ, as early as 1712. One of the most renowned American cider apples, dating from the early days of domestic cidermaking. Harrison cider was famous and considered to be better than champagne. Medium-small oval yellow-skinned fruit. Rich firm dry yellow flesh. According to William Coxe in 1817, it makes a "high coloured, rich, and sweet cider of great strength, commanding a high price in New-York, frequently ten dollars and upwards per barrell." Vigorous productive tree. A Harrison revival is underway in several locations on the East Coast. Performing well in our central Maine trials. Appears to be plenty hardy. Z4. **ME Grown.**

239A Harrison, $30.25
239C Harrison on M111, $30.25

Harry Masters Jersey Fall. **Medium-full bittersweet** cider apple. Often called **Port Wine** in north Somerset. Probably introduced by Harry Masters, Yarlington Mill, Woolston, Somerset, England, before 1900. High-quality bittersweet variety recommended for blending with other fall varieties. Soft astringent tannin. (SG 1.056, acidity 2g/L, tannin 3.2g/L) Becoming popular commercially in New England in recent years. One of the mainstays of Farnum Hill Cider. Medium-large oblate-conic fruit, mostly covered with bright red stripes and blush, and a splash of yellow russet around the stem. Narrow upright tree form. Harry Masters himself was the miller at Yarlington Mill. Harry Masters Jersey and Yarlington Mill are thought to be of the same parentage. Blooms midseason. Z4. **ME Grown.**



240A Harry Masters Jersey, $30.25
240C Harry Masters Jersey on M111, $30.25

It's All in the Mix!

"From the great diversity of soil and climate in the United States of America, and the almost endless variety of its apples, it followed that much diversity of taste and flavor will be necessarily found in the cider that is made from them." –Colin MacKenzie, 1829

For the best cider, plant several varieties. That's because when it comes to cider, it's all in the mix. Unlike beer, cider usually has only one ingredient: apples. They provide everything: acidity, sugar, tannin and flavor.

We classify the cider varieties into four categories: **sharp** (low in tannins, high in acid), **sweet** (high in sugar, little or no tannin, low acid), **bittersharp** (high in tannins and high acid) and **bittersweet** (high tannins and sugar, low acid). **Tannin** denotes naturally occurring compounds whose bitter astringency gives rounded full flavor, body and golden color. What's the difference between bitterness and astringency? An excellent 2012 University of Reading publication titled *Sustainable Cider Apple Production* attempts to define them: "Astringency is a drying, puckering sensation in the mouth in which the whole tongue is affected, while bitterness is mostly perceived at the sides and back of the tongue."

Vintage refers to varieties with perfect qualities for cider.

We recommend you plant some sharp apples for acidity, some sweet apples for sugar and some bitter apples for the tannin. Our best cider has been from about 40% bittersweet (astringent) apples and 60% mixed dessert and cooking apples.

For the ultimate cider experience Join us at the 25th annual CiderDays festival in Franklin County, MA, November 1–3, 2019 for workshops, panels, orchard tours, tastings, dinners and everything cider. If you are into apples and cider, it is just the thing for you. Join Fedco's John Bunker and cider enthusiasts and experts from all over the U.S. and Canada for an educational—and very fun—weekend.

Hewe's Virginia Crab Fall. **Sharp** cider apple. Probably a seedling of the native *M. angustifolia*, the Southern Crab. Introduced about 1700 in Virginia. One of the most prized of all American cider apples. One of the rare varieties recommended for single varietal cider. In his 1817 *A View of the Cultivation of Fruit Trees*, William Coxe devoted an entire chapter to making cider with Hewe's. The red-skinned white-spotted fruit is small, round, juicy, tough, astringent and acidic. According to AJ Downing in 1848, Hewe's "makes a very high-flavored dry cider, which, by connoisseurs, is thought unsurpassed in flavor by any other, and retains its soundness a long time." Incredibly vigorous, productive and healthy in our trials. The trees look great. Evidently it loves cold weather. Quite hardy despite its name. Long ago used as a rootstock even as far north as Maine. Blooms midseason. Z4. **ME Grown.**

241C Hewe's Virginia Crab on M111, $30.25

Kingston Black Fall. **Bittersharp** cider apple. Parentage unknown. Somerset, England, early 19th c. High in tannin and acidity. (SG 1.061, acidity 5.8g/L, tannin 1.9g/L) Produces full-bodied vintage cider with a nice blend of acid, tannins and sugar. One of the noteworthy varieties that makes a high-quality single variety hard cider, also good in a blend. We've become fans of Farnum Hill's tasty Kingston Black varietal. Now we make it ourselves. Also makes superb fresh cider. Even the fresh juice is a deep rich dark color. Medium-sized conical beautiful rich red fruit is mottled with red russet and deeper shades of maroon. Fairly decent fresh eating. The tree is a reliable bearer, but is gangly and needs careful pruning. Blooms midseason. Z4. **ME Grown.**

243A Kingston Black, $30.25
243C Kingston Black on M111, $30.25

Kola Fall. **Sharp** cider apple. *M. coronaria* 'Elk River' x Duchess of Oldenburg. NE Hansen, SD Ag Exp Sta, 1922. A rare cross developed by Niels Hansen during his quest for hardy varieties for the Upper Midwest and the prairie provinces. Highly unusual tetraploid (68 chromosomes) fruit. Small 2" roundish-oblate fruit with no cavity, a long thin stem, and greasy oily smooth green skin with an occasional yellowish blush. The powerfully fragrant fruit—wet wool, bourbon, hair salon, rhubarb, strawberry or caramel—is sharp and astringent. Tastes like soap and thought to be highly nutritious! Recommended for trial by all adventurous cidermakers. Has ornamental value with salmon-rose buds and light pink single flowers. Introduced to us by Ann Warner and Stu Cohen of Newburgh, ME. *Kola* is the Sioux word for 'friend.' Uncertain bloom time. Z3. **ME Grown.**

244C Kola on M111, $30.25

Major Early Fall. **Full bittersweet** cider apple. Probably originated in central Somerset County, England, before 1900. Sweet, soft, woolly, juicy and bitter. (SG 1.054, acidity 1.8g/L, tannin 4.1g/L) Recommended for combining with other early cider varieties such as Ashton Bitter, Ellis Bitter and Nehou. Medium-sized pinkish-rosy-red roundish-oblate-conic fruit, sometimes ribbed and usually featuring a small yellowish russet splash around the stem. One of the English varieties now becoming popular in the U.S. Vigorous tree with a good central leader and a spreading branching habit. Similar to other Jersey-type cider varieties. Scab resistant. Late blooming. Z4. **ME Grown.**

245A Major, $30.25

Medaille d'Or Late Fall. **Full bittersweet** cider apple. Parentage unknown. Developed by M. Goddard of Boisguillaume, Rouen, France, probably mid-19th c. The gold medal of cider apples, introduced into England in 1884. Full bittersweet, high in bitterness and astringency. (SG 1.053-1.059, acidity 2.1-2.7g/L, tannin 4.4-6.4g/L) Combine with other late varieties. Small-to-medium roundish-conic yellow fruit mostly covered with a netting of golden russet and sometimes featuring a soft reddish blush. Wide spreading vigorous tree with good branch angles. Scab resistant but said to be susceptible to fireblight. Blooms late season. Z4. **ME Grown.**

246A Medaille d'Or, $30.25
246C Medaille d'Or on M111, $30.25

Porter's Perfection Late Fall. **Medium bittersharp** cider apple. Charles Porter intro, East Lambrook, near Kingsbury Episcopi, Somerset, England, before 1900. Heavy cropper of small dark red-blushed fruit. (SG 1.054, acidity 8.2g/L, tannin 2.5g/L) Liz Copas writes that it "can produce an excellent cider. Its juice is rather acidic bittersharp and is better blended for a more balanced product." When I meet cidermakers, I always ask them about their favorite varieties. Eric Shatt of Redbyrd Orchard Cider in the Finger Lakes region of New York replied, "Porter's Perfection." Redbyrd's website calls it an "excellent balance of tannins and acidity." Often produces twins or triplets—two or more fruits fused together. Similar to the excellent Lambrook Pippin; the two varieties are thought to be of same parentage. Scab resistant. Blooms midseason. Z4. **ME Grown.**

247A Porter's Perfection, $30.25
247C Porter's Perfection on M111, $30.25

Redfield See page 11 for description.

Screen Shot Early Fall. **Bittersharp** cider apple. Wild seedling. John Bunker intro, Palermo, ME, 2015. Recently discovered seedling with fermented cider potential. Horrible-tasting fruit guaranteed to liven up even the most mundane pressing. A true spitter. Dense and spongy but remarkably juicy. Low in acid, with some astringency and a touch of bitterness, probably best categorized as a bittersharp. Recommended for trial by the truly adventurous and courageous cidermaker. Not for the faint of heart. We have several grafted here on the farm. Fruit is medium-sized, roundish ovate, slightly ribbed, greasy, shiny, blushed red and orange. Discovered during a fruit-exploring trip in Somerset County, ME, in the fall of 2015. I knew I'd found nirvana when I took my first bite. Appears to be annually bearing. Uncertain bloom time. Probably Z4. **ME Grown.**

249B Screen Shot on B118, $30.25

Shavel Sharp Fall. **Bittersharp** cider apple. Probably a wild seedling. Yarmouth, ME, c. 1960. In our ongoing search for bitter cider apples, this is a current favorite. Small (1½–2") red-striped fruit is very juicy, highly astringent and very difficult to eat. Introduced to us by cidermaker Steve Barr who declared it the most bitter apple he'd ever tasted. It's right up there. You should have seen Steve Wood's expression when he took a bite at the 2014 CiderDays. It still makes me giggle. We have multiple trees on trial. The tree may be a seedling or may be a rootstock with a failed graft. Our name for it is a combination of the current owners' name and the farm's traditional name. Scionwood made available through the generosity of the Shavel family at the old Sharp Farm. Uncertain bloom time. Z4. **ME Grown.**

250A Shavel Sharp, $30.25

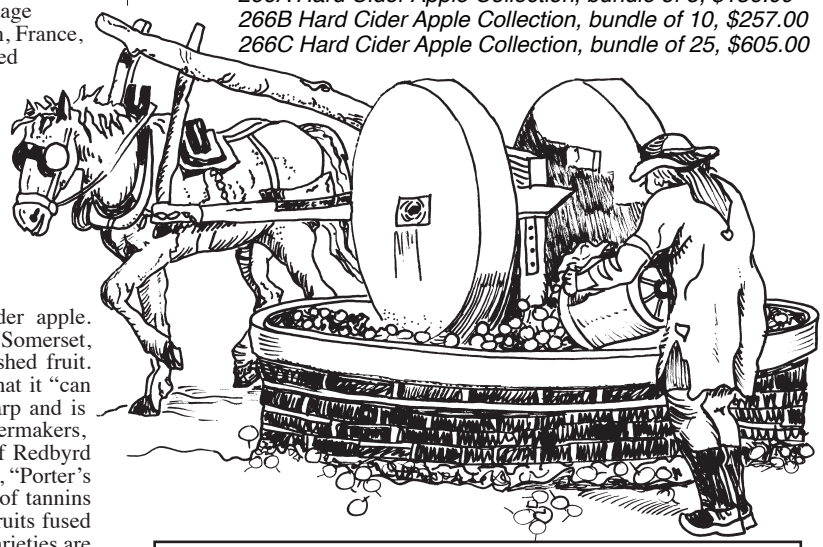
Wickson See page 12 for description.

Yarlington Mill Fall. **Medium-bittersweet** cider apple. Yarlington, near North Cadbury, Somerset, England, 1898. Rich brown low-acid juice, mildly aromatic, fruity and not aggressively tannic. Above-average sugar content. (SG 1.053-1.075, acidity 2.2g/L, tannin 3.2g/L) Slow to medium fermentation. Medium-sized yellow distinctly conic fruit with a pinkish blush and overspreading darker red stripes. Considered an all-round excellent cider variety: reliable, productive and adaptable to varying conditions. We've heard reports of it thriving in Zone 3. Steve Wood's other favorite bittersweet (see Dabinett). Highly recommended for home and commercial cider plantings. You may need to head back the leader in early years to encourage strong laterals. Midseason bloomer. Z3/4. **ME Grown.**

251A Yarlington Mill, $30.25
251C Yarlington Mill on M111, $30.25

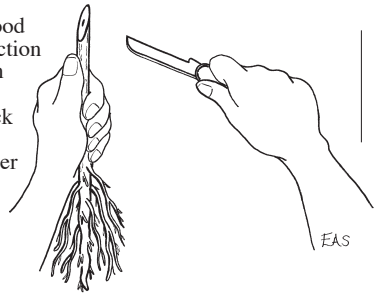
Hard Cider Apple Collections A bundle of 5, 10, or 25 trees to begin your cider orchard. Includes an assortment of bittersharp and bittersweet apples. Bundle of 5 will have 5 different varieties. Bundles of 10 and 25 will have at least 3 different bittersweet varieties. Collections may include varieties not listed in this catalog. Rootstocks will be semi-dwarf and standard. Trees are individually labeled within each bundle. Sorry, collections are not customizable. Please note that purchasing a bundle of 25 will qualify your order for a 15% discount if you order by the discount deadline. See order form, page 35, for details. All hardy to Z4. **ME Grown.**

266A Hard Cider Apple Collection, bundle of 5, $136.00
266B Hard Cider Apple Collection, bundle of 10, $257.00
266C Hard Cider Apple Collection, bundle of 25, $605.00



Starting or expanding an orchard? We offer generous savings on bundles of some cider varieties at fedcoseeds.com/trees. Bundles of 5 are 10% off at $136.00; bundles of 10, 15% off at $257.00. For larger quantities, contact us directly to discuss options.

Scionwood We offer scionwood (twigs for grafting) from a wide selection of fruit trees including many listed in this catalog. Scionwood is shipped only in March. Price is $5.00 per stick (about 8") plus shipping. Rootstock can be sent with your scionwood order in March if you order it from the Scionwood form (pages 37-38) or select that option online.



We sell scionwood, also called scions, in two ways. For those grafting up to 3 or 4 trees of a variety, one 8" stick will suffice. Each single 8" stick comes with a small paper ID label. This is how most of our customers purchase scions. For orchardists grafting large numbers of trees of a particular variety, we also offer scionwood by the foot ($4.50 per foot, minimum order of 10 feet). In our own nursery work, we are usually able to graft about 6 or 8 trees from one foot of scionwood.

The list of this year's scionwood offerings is on page 38. You'll find descriptions for these varieties on our website.

We collect the scionwood in winter and store it at about 40° until shipment in March. You can graft right away or store it for later use. Stored properly, it will keep quite well for several weeks. It needs to be kept in the fridge or in a cold dark basement, root cellar or shed. Storing scionwood at freezing temps can be okay (we have friends who stick theirs in a snow bank), but the very cold temperatures in a freezer will kill it. It will also die if it dries out or is stored without special protection from ripening veggies or fruits. We recommend triple-bagging your scionwood in plastic bags, no matter where you store it. There is no need to dampen the scionwood or to insert wet paper towels before bagging it.

- **Deadline** for ordering scionwood is February 21, 2020.
- Scionwood will be shipped to you around March 16.
- **Scionwood varieties** are listed on page 38.

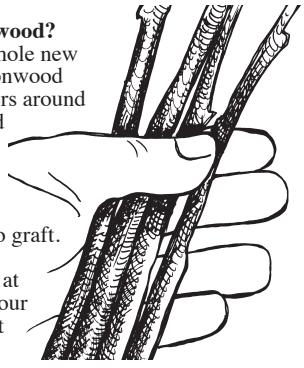
Scions are not trees!

Scions are twigs, not trees. They have no roots and will not grow if you plant them. They are cuttings from branch tips collected in the winter, intended for grafting in the spring.

Is grafting easy to do? Yes and no. It is an acquired skill. Experienced grafters often have 100% "take" (success rate) with their grafting. Beginners often have less than 50% take—or even zero. While you can learn to graft from a book or video, we highly recommend the old-fashioned way of learning: find a real person to teach you. MOFGA (Maine Organic Farmers and Gardeners Association) has grafting classes every spring. Other organizations around the country do as well.

There are two general ways to graft fruit trees in spring. You can **bench graft** by grafting scionwood onto bare-root rootstock. Generally we do this indoors in late March or early April. We keep the little grafted trees packed into a bucket of damp sawdust in a warm spot in the house (77–86°) to break dormancy and promote callus development. Then we harden them off in a cold (but not freezing) place for a week or two before planting out in the nursery in mid-to-late May. In a couple of years when the trees are 3–4' tall, we plant them in the orchard. You can grow your own rootstock from seed or purchase it from us. You can also **topwork** scionwood onto established trees. We do our topworking after the trees have begun to show some green growth, usually about May 10 in central Maine.

Can you collect your own scionwood? Of course! Grafting can open up a whole new world for you. You can purchase scionwood from Fedco and several other suppliers around the country. You can trade scionwood like you would baseball cards or recipes. And, best of all, you can collect your own scionwood from your favorite trees. We're always on the lookout for interesting varieties to graft. Before long, you may even become completely obsessed like many of us at Fedco! We offer grafting supplies in our Seeds & Supplies catalog or online at **fedcoseeds.com/ogs**.



"Thanks for all your awesome scions and service! I had a great time learning to graft last year and now I'm continuing to expand my little Brooklyn orchard. Cheers!"
–Garrison Harward, Brooklyn, NY

Hardy Rootstocks We consider these to be some of the best rootstocks for home or commercial use. Even without grafting, any of these produces fruit suitable for wildlife. For rootstocks not listed, or for larger calipers or larger quantities, please write for information.

Please note! We do our best to provide 1/4" caliper stock. Because of factors beyond our control (such as weather!) stock may be 3/16–3/8". We cannot guarantee scion or rootstock diameter.

Because of the way they are propagated, clonal rootstocks (B118, M111, G11, B9 apples and OHxF97 pear) rarely come with more than a few roots.

You may order rootstock for shipment around March 16 by using the scionwood order form, available in this catalog, page 37. Rootstock ordered on the regular order form in this catalog, page 35, will be shipped with the rest of the Tree order later in March or April. Both options are also available online.

***Malus* 'Antonovka'** (Apple) Hardy Russian seedling rootstock for full-sized "standard" apple trees. The hardiest rootstock we offer. Space trees 20–30' apart. Z3.

268A Malus Antonovka, bundle of 10, $29.50

***Malus* 'Budagovsky 118'** (Apple) [Moscow Pear x (M8 and M9 pollen)] Michurinsk College of Ag, Michurin, Russia. Also called **Bud 118** or **B118**. Semi-dwarf rootstock, about 85–90% of standard. Sometimes referred to as a "semi-standard" or even a standard. Space trees 20–25' apart. More productive and precocious (fruits at a young age) than trees on Antonovka. Very winter hardy and soil adaptable. Generally not used in commercial orchards due to its large size. Note that reddish cambium does not scrape green like other rootstocks. Resistant to collar rot. Unknown susceptibility to fireblight. Z3.

269A Malus Budagovsky 118, bundle of 10, $29.50

***Malus* 'M111'** (Apple) [Northern Spy x Merton 793 (Northern Spy x East Malling11)] Collaborative intro of East Malling Research Stn and the John Innes Institute, Merton, England, about 1950. Technically named MM111, the MM refers to Malling and Merton. Very popular semi-dwarf rootstock produces a tree about 65–80% of standard. Space trees 15–20' apart. No staking necessary. Slightly more precocious than standards. Well anchored and adaptable to a wide range of soils. Resistant to woolly aphid. Not nearly as long-lived as standards. Hardy to Z4, maybe Z3.

270A Malus M111, bundle of 10, $29.50

***Malus* 'Geneva 11'** (Apple) Also called **G11**. Cornell U intro, NY. Dwarf rootstock produces a tree about a third the size of standard, about halfway between M9 and M26 (a bit larger than Bud 9). Space trees 8–10' apart. Suckers only slightly. Moderately susceptible to woolly aphid. Excellent fireblight resistance. Requires staking, weeding and watering in most locations. Z4/5.

271A Malus Geneva 11, bundle of 10, $33.50

***Malus* 'Budagovsky 9'** (Apple) [M8 x Red Standard (Krasnij Standart)] Also called **Red-leafed Paradise** or **Bud 9**. Michurinsk College of Ag, Michurin, Russia, 1946. Dwarfing rootstock, produces a tree about a quarter the size of a standard tree. Highly productive and precocious with large fruit size. Very hardy though not as hardy as Antonovka. In most locations, requires weeding, mulching, staking and irrigation. Space trees 5–10' apart. Note that reddish cambium does not scrape green like other rootstocks. Some resistance to fireblight. Z4.

272A Malus Budagovsky 9, bundle of 10, $29.50

Prunus americana (Plum) Seedling rootstock for American, Japanese or hybrid plums. *Not available this year. Back in 2021.*

***Prunus avium* 'Mazzard'** (Cherry) The rootstock we use for grafting sweet and pie cherries. Shallow spreading root system. Longer lived than Mahaleb though not as hardy. Does not do well in heavy poorly drained soils. Z4/5.

274A Prunus avium Mazzard, bundle of 10, $29.50

***Prunus cerasifera* 'Myrobalan'** (Plum) Seedling rootstock for European plums. Not recommended for American or hybrid plums. Z3.

275A Prunus cerasifera Myrobalan, bundle of 10, $29.50

***Pyrus* 'OHxF97'** (Pear) (Old Home x Farmingdale 97) Produces a vigorous hardy well-rooted almost-standard-sized tree. Superior to Pyrus communis in numerous ways, and can be used for both European and Asian pears. We use "97s" for our Fedco catalog offerings. Z3/4.

276A Pyrus OHxF97, bundle of 10, $29.50

Please join us, Sunday, March 29, 2020, for the annual Scionwood Exchange and grafting workshop in the exhibition hall of MOFGA's Common Ground Education Center in Unity, ME. Hosted by Fedco, the Maine Tree Crop Alliance and MOFGA. See mofga.org to find out about more organic orcharding classes and events.

Pears *Pyrus communis*

Native to temperate Europe and Asia, pears can grow up to 100' tall in the wild. Many pear varieties are hardy in New England but tend to take longer to come into bearing than apples. Farther south, pears tend to bear annually. However, in Maine, where they are approaching their northern limit, some varieties tend to bear biennially. Pick fruit when green and ripen it on the shelf. Or, for optimal eating, try Ed Fackler's method: "…when fruits exhibit slight color changes, begin to test pressure (using your thumb) near the stem. When there is a slight 'give,' pick all the fruit, store at or near 35° for 7 or more days. Then remove them as needed, allow them to sit at room temps for 2–4 days which allows them to ripen to peak flavor."

We identify some varieties as useful for **perry**. Perry is the pear equivalent of fermented hard cider.

Pear blossoms are less attractive to bees than apple blossoms, so pears should be planted closer together to ensure pollination. Although some pears appear to be self-pollinating, **we recommend a second variety for pollination.** Bloom dates for all varieties are similar.

Pears are on OHxF97 rootstock and will reach 25' or taller at maturity; plant 15–20' apart. (2½-6' trees)

Bartlett Late Summer. Seedling found in Aldermaston, England. Introduced to the U.S. in the late 1700s. Also known as Williams' Bon Chrétien. The most widely planted and well known of all pears, accounting for 75% of the U.S. commercial crop. Adaptable to many climates and soils. Large greenish-yellow classic oblong obtuse-pyriform fruit; very good quality. Full reliable annual crops. Large vigorous easy-to-grow long-lived tree bears young. I used to think you couldn't grow Bartlett in central Maine, but I've changed my mind. Now I recommend it as a good choice south of Bangor. Susceptible to fireblight. Good pollinator for Asian Pears. Will not pollinate Seckel. Z4. **ME Grown.**

285A Bartlett, $31.25

Beurre Clairgeau Mid-Late Fall. Pierre Clairgeau intro, Nantes, France, circa 1830. Large Bartlett-shaped yellow fruit with a beautiful red blush sprinkled with russet. At its best, the fruit is richly flavored, melting, buttery, juicy, sweet and aromatic. Brought to the U.S. around 1854, Clairgeau found its niche for canning and other cooking. The trees are beautiful, almost ornamental, vigorous, unusually upright, healthy, very productive, bearing young and annually. Quickly spread throughout New York and New England up into Maine, becoming a mainstay of American pear growing at that time. Now mostly forgotten—we're pleased to be bringing it back. Z4. **ME Grown.**

286A Beurre Clairgeau, $31.25

Bosc Fall. Seedling introduced by Van Mons, Lourain, Belgium, 1807. Also called **Beurre Bosc**. Oblong acute-pyriform, or large and long-necked; dark rich yellow covered with cinnamon-brown russet. Distinctive sweet rich spicy buttery flavor. Melting juicy tender white flesh has smooth texture and a pleasing aroma. Somewhat gritty around the core. Large vigorous upright spreading tree bears huge crops annually. Good pollinator for other varieties. A longtime favorite throughout central Maine. Z4. **ME Grown.**

287A Bosc, $31.25

Cabot Vermont Fall. An old dessert pear, circa 1850, discovered in Cabot, VT, a few miles west of the New Hampshire border and about as far north as Bangor, ME. Introduced to us many years ago by Armando Bona of Passumpsic, VT. A superior dessert pear with medium-large oblong-obovate-pyriform fruit. Yellowish skin has a slight reddish blush. Yellowish sweet flesh is coarse grained, extremely juicy, with no grit cells. Not only is it a delicious dessert fruit, it is also remarkable for its very rare "double" flowers. Highly ornamental! Not to be confused with the old Massachusetts pear Cabot. Annual and self-pollinating. Very hardy. Z4 or possibly even Z3. **ME Grown.**

288A Cabot Vermont, $31.25

Pruning time

Winter time is pruning time. It's generally best to prune when trees and shrubs are dormant. Although practically every tree in the Fedco catalog could use some pruning now and then, some horticulturalists eschew pruning. For example, Masanobu Fukuoka (author of *The One-Straw Revolution*) believed in allowing his citrus trees to do their own thing and find their own form. We agree to an extent. We think of horticulture as a partnership between the gardener and the plants. Both contribute to the relationship. We want the plants to lead the way, but we also want to be a partner. So we do prune, but usually with a very light touch.

When we plant a fruit tree, we prune it immediately: trim off broken branches, cut any branches growing too close together, or choose a leader if there are more than one. After that, no more more pruning until the tree fruits. This can be several years. The trees get thick and every time we see them, our pruners want to prune—we resist the temptation. A young tree needs to photosynthesize. Pruning them is like forcing them to repeat 9th grade. Leave them alone and let them grow. When they begin to fruit, go ahead and prune.

Dana Hovey Winter. Thought to be a seedling of Seckel. Roxbury, MA, about 1854. Introduced by 19th-c. fruit enthusiast Francis Dana who dubbed it "Dana's Hovey" in honor of CM Hovey, Boston nurseryman and author of *The Fruits of America*. Sometimes called **Winter Seckel** because of its similarity to Seckel. Small obovate-obtuse-pyriform rich golden-yellow russeted fruit. Intensely sweet highly aromatic tender storage pear has excellent flavor; possibly the best eating of all winter pears. Keeps extremely well. Harvest in October and store in a cool dry spot. Still great eating in December—sometimes even as late as February. Hardy vigorous moderately productive spreading tree adapts to a variety of soils. No scab and relatively few bugs. Z4. **ME Grown.**

290A Dana Hovey, $31.25

Endicott Fall. Dessert and perry pear. Orchard Farm, Naumkeag, MA, circa 1630. Planted from seed in either 1630 or 1632 by Puritan John Endicott, the first Colonial Governor of Massachusetts, the incredible original 387- or 389-year-old Endicott pear tree has the distinction of being probably the oldest living fruit tree in America. Medium-sized roundish (obovate-obtuse-pyriform) fruit is greenish yellow, dotted and splashed with russet. Moderately tasty fresh eating, and James Thacher in his 1825 *The American Orchardist* writes, "From the pear is prepared a pleasant liquor, known under the name of perry..." Endicott was an avid gardener who grew hundreds of fruit trees on his 300-acre Orchard Farm in what is now Danvers. The ancient gnarled and twisted pear tree is all that remains. Z4/5. **ME Grown.**

292A Endicott, $31.25

Giffard Summer. Chance seedling discovered by Nicolas Giffard, Foussieres, France, 1825. Introduced to the U.S. about 1850. Also called **Beurre Giffard**. Very high-quality dessert pear is one of the first to ripen in our orchard, in midsummer just before Clapp Favorite. Soft melting slightly coarse flesh is very similar to Bartlett. Delicious. Medium-sized acute-pyriform fruit has tender greenish-yellow skin with a dotted red blush and conspicuous greenish or russet dots. Small core. Pick them a little green and ripen them inside, or pick them daily just as they ripen. The tree is medium sized, vigorous, spreading and productive. Extremely hardy. Z3. **ME Grown.**

293A Giffard, $31.25

Golden Spice Fall. **Perry pear.** MN #4. Parentage unknown. U Minn, 1949. Small fruit resembles Seckel, only larger. Clear yellow skin with light red blush. Light yellow fine flesh is tart, astringent and unusually spicy. Not the best for fresh eating but Laura Sieger of Bent Bough Cidery says it is promising for perry. We'll keep you posted after the first batch is done. Not a keeper. Ure is a good pollinator for Golden Spice, which is in turn a good pollinator for other pears. Vigorous productive tree. Extremely hardy. We offer it especially for perry enthusiasts in the coldest districts. Even the worst of northern New England winters will cause little or no damage. Z3. **ME Grown.**

294A Golden Spice, $31.25

Gourmet Late Summer. SD F15 x Ewart. SD State U, 1988. If you like the idea of Asian pears but have been deterred by lack of flavor and hardiness, try Gourmet. Although similar in texture to Asian pears, Gourmet's sweet yellow flesh has more flavor and less wateriness. It's a crisp pear that melts in your mouth. We're big fans. Greenish-yellow thick tender skin with russet dots on 2" obovate-obtuse-pyriform fruit. A very nice unusual addition to the mix of summer harvests. Produces a good crop in our orchard annually. Very hardy medium-sized upright tree. Sterile pollen; will not pollinate other trees. Z3. **ME Grown.**

295A Gourmet, $31.25

Magness Late Summer. US 3866-E [Giant Seckel (SP149490) x Doyenne du Comice] USDA, 1960. Rich, melting, buttery, juicy, sugary, tender, highly perfumed and aromatic with almost no grit cells. Renowned plant breeder Elwyn Meader rated Magness as the standard by which to judge other pears in taste and quality. Some call it the best-flavored pear ever. Medium-sized fruit is greenish-yellow with a light dull-bronze russeting, sometimes a crimson blush, and a short pyriform—almost oval—shape. Fruit set can be inconsistent. One friend got excellent fruit set by mashing up flowers from other pear varieties and spraying them on his Magness when it was in full bloom. Keeps more than two months with refrigeration. Vigorous spreading tree. Will not pollinate other varieties. Some insect resistance and excellent fire blight resistance. Z4. **ME Grown.**

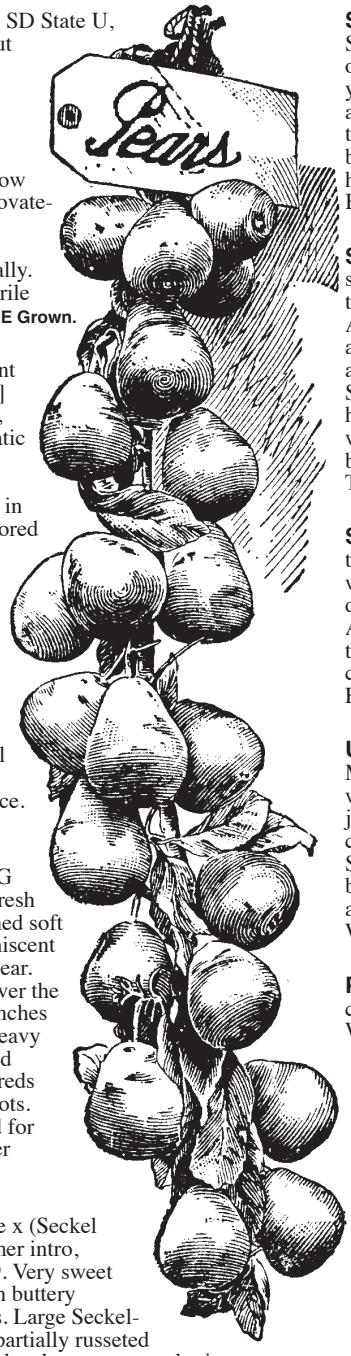
297A Magness, $31.25

Patten Late Summer. Orel 15 x Anjou. CG Patten intro, Iowa St U, 1922. Very good fresh eating with sweet "high flavor." Fine-grained soft flesh has minimal grit cells. Vaguely reminiscent of Bosc in size and shape. Good canning pear. Tree is extremely adaptable, growing all over the Northeast. Long willowy very flexible branches won't break even under the weight of its heavy crops. Fared incredibly well during the cold "test winter" several years ago when hundreds of northern Maine pear trees died to the roots. Extremely hardy and highly recommended for coldest districts. A good pollinator for other varieties. Scab resistant. Z3. **ME Grown.**

302A Patten, $31.25

Rogue Red (5-235) Fall-Winter. [Comice x (Seckel x Farmingdale seedling #122)] Frank Reimer intro, Southern OR Exp Stn, Medford, OR, 1969. Very sweet high-quality late-ripening dessert pear with buttery cream-colored flesh and very few grit cells. Large Seckel-shaped (obovate) mostly red-blushed and partially russeted fruit. Harvest about the time of Bosc. Said to be a very good winter keeper. Sometimes mistakenly called Rouge Red, an understandable slip-up considering its red skin. Vigorous upright annual-bearing moderately productive tree. Shows tolerance to fireblight; resistant to pear scab. Z3/4. **ME Grown.**

303A Rogue Red, $31.25



Seckel Late Summer. Seedling near Philadelphia, PA, early 1800s. Sometimes called **Sugar Pear**. Often considered the best-flavored of all pears; even the skin is delicious. Small obovate fruit is russeted yellowish-brown with slight red blush. Juicy, spicy, distinctive and aromatic. Eat ripe off the tree, or pick firm and ripen later. We use Seckels to make our baked pear sauce. It's wonderful. Very productive annual-bearing large tree, easy to grow. The most reliably bearing pear tree we have in our home orchard. Scab and fireblight resistant. Will not pollinate Bartlett. Z4. **ME Grown.**

304A Seckel, $31.25

Stacyville Late Summer. Unknown origin. Stacyville, ME. Medium-sized obovate-obtuse-pyriform pears are light yellow with an orange to greyish-red blush. The sweet fruit has a delicious citrusy aftertaste. Although the fruit is good fresh eating, we prefer to cook it. Precocious and productive. Our tree gives us large crops most years. Long ago, friends told John about the pear and insisted he make the trip to Stacyville in southern Aroostook County. When he finally saw it himself, he thought the 50' vase-shaped tree was an elm. That tree, held together with cables, was extremely old but still bearing huge crops. Appears to be self-pollinating. Disease resistant, extremely hardy and very vigorous. They don't keep for long; use them up quickly! Rare. Z3. **ME Grown.**

306A Stacyville, $31.25

Summercrisp Midsummer. MN N33201 (Gaspard No. 5) Brought to the MN Hort Res Stn by John Gaspard in 1933, likely discovered as a wild seedling. U Minn, 1986. Large obovate-acute-pyriform very sweet dessert and canning pear with green skin and a red blush. Ripens in August in Maine. Eat them fresh crisp, can them in quarters, and juice the rest. Precocious annually bearing tree, medium-sized with typically conic habit. Considered the hardiest variety in the Minnesota collection. Free from fireblight. Z3. **ME Grown.**

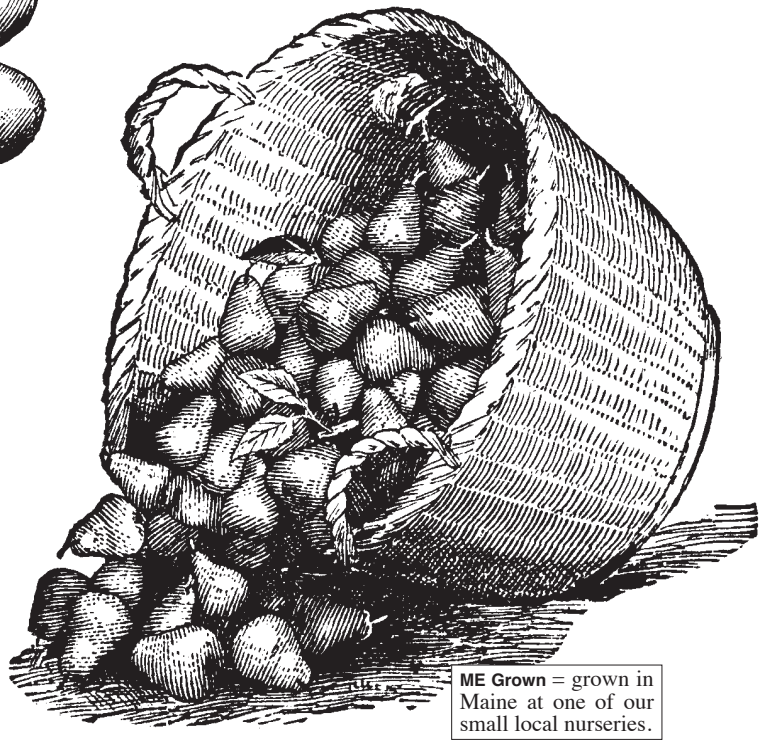
307A Summercrisp, $31.25

Ure Late Summer. *P. ussuriensis* x *P. communis* seedling. Morden Stn, Manitoba, 1978. Rhymes with *pure*. Unusual very small roundish fruit with crisp texture more like an Asian pear. Greenish yellow 2" fruit is juicy, sweet and distinctively spicy. All-purpose: good for snacking, canning and preserves. Ripens unevenly over a couple weeks in mid-September. Glossy green foliage turns bright burgundy red in fall. Early bloomers like Bartlett, Patten, Nova, Golden Spice and Asian pears are recommended pollinators. So far appears to be fireblight resistant. Withstands nighttime temps down to –40°. Z3. **ME Grown.**

310A Ure, $31.25

Pear Collection Assorted bundle of 5 different trees will contain a combination of heirloom and more recent varieties to start your orchard. Will not include any perry pears. All hardy to Z4 and **ME Grown.**

318A Pear Collection, bundle of 5, $140.00



ME Grown = grown in Maine at one of our small local nurseries.

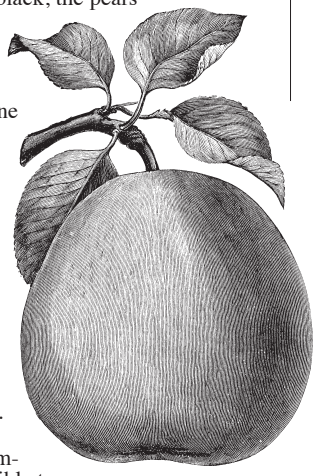
Pear Leaf Blister Mite

Pear leaf blister mites can sometimes be a problem for pear growers in the U.S. The tiny mites overwinter under the budscales and become active in spring. They are too small to see with the naked eye, but you'll know you have them if pear foliage looks like it has red blisters that eventually turn black. We recommend a dormant oil or pure neem oil spray in spring just before the pears leaf out. You can also do a sulfur spray in the fall. (Apply appropriately, with protection. Read labels.) As a precaution, we spray Fedco pear trees with pure neem oil in the spring before shipping. Neem oil spray is organically certifiable and poses no risk to you, your pets or the environment. We have noticed that trees often outgrow the infection even if you do nothing at all.

Asian Pears *Pyrus pyrifolia*

There are thousands of named Asian pear cultivars in China, where they have been grown for more than 2000 years. They are long-lived and bear young. Asian pears differ from European pears: they are crisp and very juicy, sweet and mild with a nutty background, and are roundish in shape. **Although partly self-fruitful, pollinators are recommended.** The varieties we offer will pollinate one another. Some European pears, notably Bartlett, will also act as pollinators. Because they set heavily, thin the crop once or even twice during the first two months after bloom to ensure large fruit. Leave about one fruit per spur. Unlike European pears, they should be tree-ripened. When the seeds are black, the pears are ready. They ripen in late summer and keep several weeks with refrigeration.

Cultural requirements are similar to European pears. Although they are usually considered a Zone 5 plant, many of us in Zone 4 are having bountiful crops. Asian pears reach approximately 15–20' at maturity. Plant trees 15–20' apart. (2½-6' trees)



Hosui Late Summer. [Ri-14 (Kikusui x Yakumo) x Yakumo] Nat'l Hort Res Stn, Tsukuba, Japan, 1972. Firm crisp fine-textured juicy mild subacid yet sweet rich-flavored white to off-white flesh is considered by some to be the best-flavored of all Asian pears. Large round-oblate long-stemmed fruit with medium-thick skin covered with glowing yellow-orange-golden brown russet and numerous light-russet dots. Standard commercial variety. Will store for a month. Hosui means 'much water.' Medium-sized very vigorous productive tree. Susceptible to fireblight. Z4/5.

319A Hosui, $31.25

Nijisseiki Late Summer-Fall. Chance seedling "found on a rubbish heap" by Kakunosuke Matsudo at Ishii, Chiba Prefecture, Japan, 1898. Also known as **Twentieth Century**. White flesh is mild-flavored, crisp, juicy, medium-sugar and high acid. Medium-large greenish-yellow semi-glossy fruit is roundish-oblate. Stores up to 6 months in cool storage. This is the pear that, along with Chojuro, kicked off the Asian pear industry in Japan and became the standard to which all others are compared. Used extensively in modern Japanese pear breeding programs. Tree is medium-sized, upright and spreading. Ripens a couple of weeks later than Shinsui. Z4/5. **ME Grown.**

320A Nijisseiki, $31.25

Shinko Fall. Nijisseiki seedling, Japan, 1941. Shinko means 'new success' in Japanese. Yellowish flesh is sweet, crisp and juicy, with very good flavor. Medium-large lumpy round brownish russeted fruit. Ripens late and stores up to 3 months. Moderately vigorous precocious annually bearing tree. In addition to the other Asian pears, Bartlett is also a good pollinator for Shinko. Fireblight resistant. Z4/5.

321A Shinko, $31.25

Shinseiki Late Summer. Nijisseiki x Chojuro. Teiji Ishikawa intro, Okayama Prefecture Ag Exp Stn, Japan, 1945. White flesh is crisp, sweet and mildly tart with lots of juice. Medium-sized round-oblate light to medium-bright yellow fruit, with little to no russeting. Shinseiki means 'new century.' Keeps about 3 months in storage. Dense spreading precocious productive tree. Disease resistant. Z4/5. **ME Grown.**

322A Shinseiki, $31.25

Shinsui Summer. Kikusi x Kimizukawase. Hort Res Stn, Yatabe, Japan, 1967. Medium-sized round-oblate yellowish-brown russeted fruit with crisp juicy fine-textured very sweet flesh. Excellent fresh eating. Not as firm as other Asian pears. One of the earliest to ripen each year. Pennsylvania grower and Asian pear aficionado Ike Kirschner considers this a great pear. Keeps about 6 weeks in refrigeration. Shinsui is translated as 'new water,' 'adoration,' 'inundation' and more. It is also the pseudonym of one of Japan's most famous 20th-c. artists, Ito Shinsui (1888-1972). Even if you don't know his name, you will likely recognize his iconic colorful prints of young women. Z4/5.

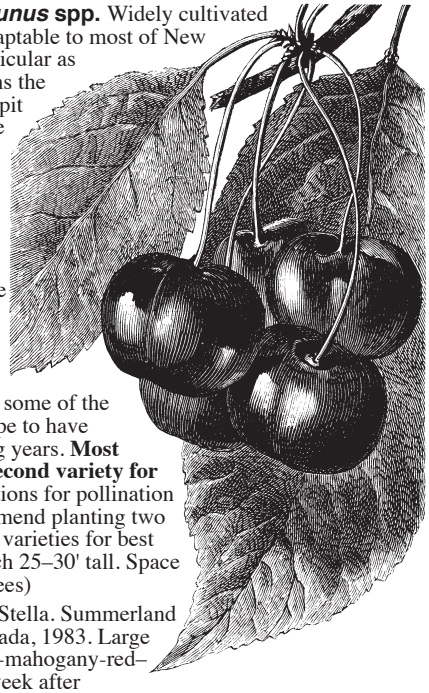
323A Shinsui, $31.25

Yoinashi Fall. Fowler Nurseries intro, Newcastle, CA, about 1987. Fine-textured off-white flesh is crisp, juicy, aromatic and sweet. Large conic light brown russeted fruit. Means 'good pear' in Japanese. It is a good variety! One of the folks at Fowler Nurseries described it to us as having "a little bit of a zip" to it. Harvest after Hosui and before Shinko. Upright medium-vigorous tree. Moderate tolerance to fireblight. Z4/5. **ME Grown.**

324A Yoinashi, $31.25

Stone Fruits *Prunus* spp.

Widely cultivated around the world and adaptable to most of New England. Not highly particular as to soils. Clingstone means the fruit's flesh clings to the pit (or stone) and a freestone pit drops away from the flesh.



Sweet Cherries *P. avium*

Generally grow into large trees although the flowers are tender and fruiting can be iffy in Maine. But we've tasted some right off the tree in central Maine; they were amazingly delicious! We are testing some of the hardiest varieties and hope to have more available in coming years. **Most sweet cherries need a second variety for pollination.** See descriptions for pollination requirements. We recommend planting two or more of the following varieties for best results. Mature trees reach 25–30' tall. Space trees 25' apart. (2½-6' trees)

Lapins Summer. Van x Stella. Summerland Res & Dev Ctr, BC, Canada, 1983. Large sweet high-quality black-mahogany-red–skinned fruit. Ripens a week after Stella, by mid-July in warmer districts. Very vigorous, productive and upright; crops consistently in central Maine. **Self-pollinating**, but benefits from planting with another variety. Z4/5.

329A Lapins, $31.75

Rainier Summer. Wash. P1-680 (Bing x Van) Harold W. Fogel intro, WA Ag Exp Stn and USDA, 1960. Classic dessert cherry. Very large fruit, light yellow skin with red blush. Firm fine-textured flesh with a distinct delicious flavor. Colorless juice. Similar to Bing. Good fresh or canned. Quite resistant to cracking. Ripens midsummer. Vigorous productive tree. Early to come into bearing. One of the hardiest sweet cherries; currently bearing fruit in some Zone 4 locations. **Requires a second variety for pollination.** Z4/5.

331A Rainier, $31.75

Stella Midsummer. 2C-27-19 (Lambert x John Innes Sdlg. 2420) Summerland Res & Dev Ctr, BC, Canada, 1968. Hardy good-quality self-fertile sweet cherry. Large heart-shaped black-skinned fruit has juicy medium-firm black flesh. May be a disappointment to sweet cherry aficionados from the Northwest but could be a dream come true for orchardists in the North. The fruit buds are relatively tender, but we've received encouraging reports that the tree is doing well in Minnesota. Upright spreading vigorous productive tree will grow to 25–30'. **Self-pollinating**, but yields may increase if planted with other varieties. Pollinates other sweet cherries. Z4/5.

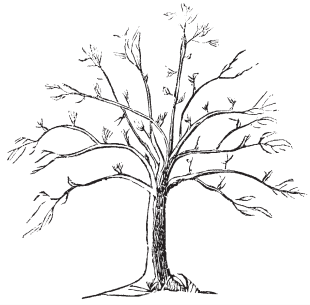
332A Stella, $31.75

Van Summer. Empress Eugenie x open-pollinated. Summerland Res & Dev Ctr, BC, Canada, 1944. Later than other varieties. Bing-type almost-black medium-to-large fruit. Very firm though somewhat susceptible to cracking. Heavy annual crops. Strong vigorous upright tree. Considered hardier than most varieties. Excellent pollinator, but **requires a second variety for pollination.** Z5, but worth trialing in Z4/5.

333A Van, $31.75

Winter Trees

All the complicated details
of the attiring and
the disattiring are completed!
A liquid moon
moves gently among
the long branches.
Thus having prepared their buds
against a sure winter
the wise trees
stand sleeping in the cold.
–William Carlos Williams



Pie Cherries ***P. cerasus*** Also called **Sour Cherries**. Delicious enough to eat right off the tree. They fruit in early to midsummer and don't mind heavy soil. They are especially good in pies. They are generally divided into two groups: **Morello** types have dark red spherical fruit, dark juice and relatively small compact trees. **Montmorency** (or Amarelle) types have light red slightly flattened fruit, clear juice and medium-sized somewhat open trees.

Pie cherries are significantly hardier than sweet cherries but can be frustrating to grow. Although the trees are fully hardy in Zone 3, flower buds may be damaged in colder winters. Some growers in Maine have reported large harvests only to have their trees die unexpectedly a year or two later. We regularly hear reports of excellent crops, so we know it can be done. We are very interested in your successes and failures. If you have had experiences you think might be useful to others, please be in touch. **Pie cherries are self-pollinating, and do not require another variety for pollination.** Mature trees reach 10–15' tall. Plant 15–20' apart. (2½-6' trees)

English Morello Summer. Netherlands or Germany, before 1860. Sometimes called **Grosse Cerise a Ratafia**, **Grosse Lang Lothkirsche**, **Griotte du Nord**, **Morris** and **Colorado Morello**. Very dark red-black skin. Dark red flesh and juice. Excellent culinary cherry, recommended for pies and all other cookery. Ripens late, after Montmorency. Distinctive small roundish tree with drooping branches. Brown-rot resistant. Despite the name we know it by, it is thought to have originated on the Continent, eventually finding its way to England and then North America. Z4/5.

338A English Morello, $31.75

Evans Mid-Late Summer. Parentage unknown. Edmonton, Alberta. Also called **Bali**. Rescued from obscurity in 1976 by Dr. Ieuan Evans for whom it was named. Popularized by Bill MacKentley of St. Lawrence Nurseries. Large crops of Morello-type fruit are excellent for eating, jams, jellies, pies, dark red juice and wine. Can be very hardy and produce good-quality fruit, but our results in Zone 3 have been inconsistent. Naturally dwarf tree, tolerant of a wide range of soils, although prefers light fertile soils. Z3/4.

339A Evans, $31.75

Meteor Summer. MN 66 (Montmorency x Vladimir) U Minn, 1952. Bright scarlet roundish-oval fruit. Translucent bright yellow flesh and clear juice. Mildly acid flavor. Very good eating right off the tree. Also good for pies, canning and freezing. Easy to pit. Excellent dried. Has proven to be a consistent producer in some locations but susceptible to brown rot in others. In coldest districts cropping has been inconsistent and hardiness questionable. In our Aroostook County test orchard, trees died to the ground after temperatures of –38°: not as hardy as Garfield Plantation. However, we still recommend it from central Maine south, Zones 4–6, where some growers are having great success with Meteor. Ripens mid-July in central Maine. Z4.

341A Meteor, $31.75

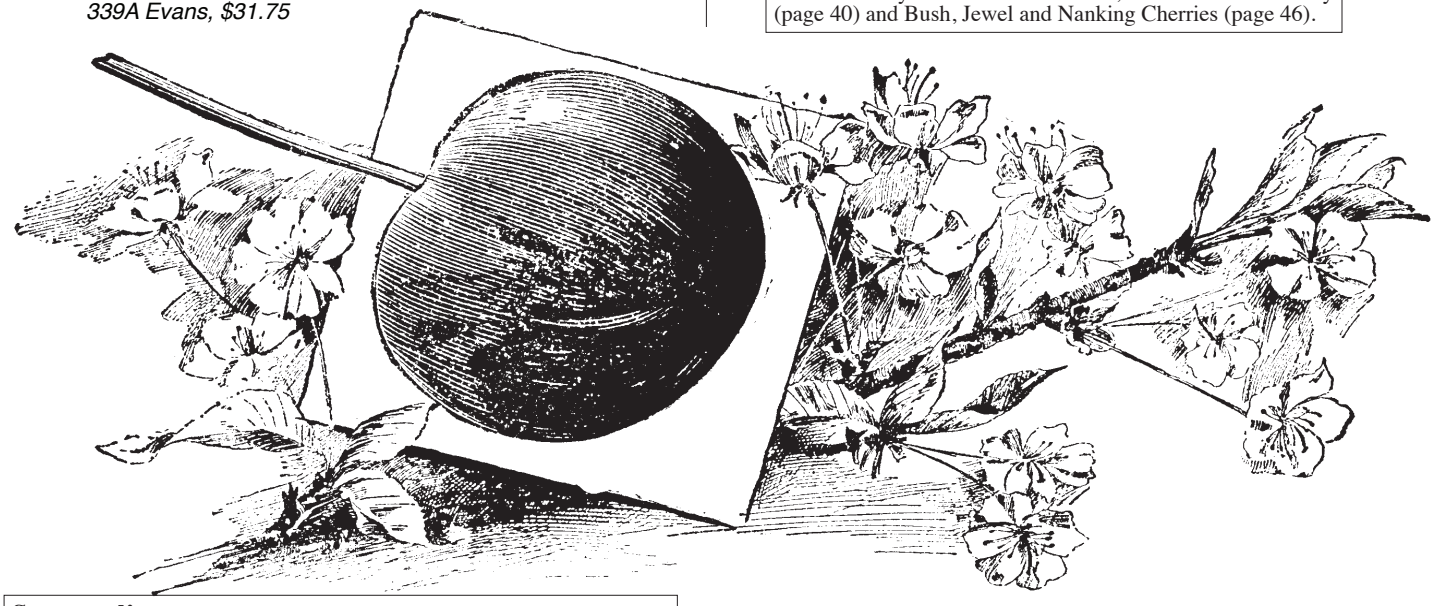
Montmorency Summer. Seedling of Cerise Hâtive or Cerise Commune. Montmorency Valley, France, before 1600. Introduced to the U.S. about 1830. The most famous of all pie cherries. Not widely grown in Europe or Russia but long the standard of excellence in the U.S. Aromatic firm-fleshed bright red fruit makes a clear light pink juice and is a favorite for processing. Surprisingly hardy, though not as hardy as Garfield Plantation or Evans. Our Aroostook County test orchard trees fare better than Meteor. Should do really well from central Maine south. Appears to be resistant to brown rot. Vigorous productive medium-sized upright-spreading tree tolerates a variety of soils. Z3/4.

342A Montmorency, $31.75

North Star Summer. MN 58 (English Morello x Serbian Pie #1) U Minn, 1950. Morello-type cherry can be eaten fresh when ripe. Large roundish heart-shaped fruit with a small stone. Dark glistening mahogany-red skin. Dark red meaty tender juicy flesh has pleasantly acid flavor. Very productive. A natural dwarf. Resistant to brown rot and cracking but may not be long-lived in some locations. Z3.

343A North Star, $31.75

For other tasty fruits called "cherries," see Cornelian Cherry (page 40) and Bush, Jewel and Nanking Cherries (page 46).

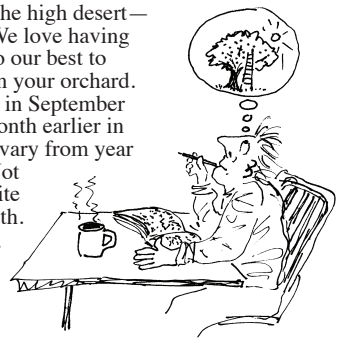


Supercool!

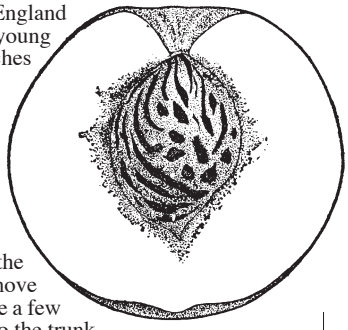
During the dark months of the year, when we spend more time slumbering beneath our wool blankets, trees are slumbering beneath their bark skins. They enter a state of dormancy and their metabolic processes nearly halt. As the temps outside drop, trees must prevent the water stored in their cells from freezing and causing irreparable damage. To achieve this, they slowly begin preparing for winter (hardening off) in late summer when the day length begins to noticeably diminish. After leaf fall, water exits the living xylem cells and enters into the spaces between them. The cells then shrink under pressure, become dehydrated and convert their starches into sugars, thus lowering the freezing point of the remaining liquids inside the cells. In a sense, they are making their own antifreeze solution. The water in between the cells can freeze without damaging the plant. This works because the dehydrated cell membranes become pliable and can flex when punctured by ice crystals that form between the cells. This entire process is called "supercooling." It's super crazy, right?! Plants can perform this task to about –40°. Where winters get much colder than this, you don't see many trees besides conifers, which pull out all sorts of crazy stunts to survive deep winters. Then there is the land beyond the treeline, where it just gets too darn cold for everyone except the ground-trailing plants, which will be covered and insulated by snow.

Relative ripening dates

Although our catalog focuses on woody plants that do well in the northeast, we have customers all over the U.S.—up along the Canadian border, in the mid-Atlantic states, down in the mountains of North Carolina and out west in the high desert—anywhere hardiness is important. We love having customers so spread out, and we do our best to tell you when a variety will ripen in your orchard. But it's not easy. A fruit that ripens in September in northern Maine might ripen a month earlier in Pennsylvania. Ripening dates also vary from year to year depending on conditions. Not only that, the fruit might be exquisite up north but rather blah farther south. That's the nature of these varieties, and it's part of why we offer so many each year. We think you'll find varieties that can thrive in your area.



Peaches ***P. persica*** Northern New England peach trees can do very well. They bear young and so heavily that they may break branches if unthinned or unsupported. Trees may also die unexpectedly at any age. Up here peach trees can take big hits some winters. In recent years some of the trees out in the open at our place died to the ground. The survivors got pretty beat up. However, 2019 produced a bumper crop of peaches.



Prune peach trees in spring after the buds begin to swell and show pink. Remove dead and inward-growing branches. Make a few bold cuts to bring main branches closer to the trunk. Peach trees grow vigorously each year and fruit on last year's wood. The goal is to keep trees small and open; leggy branches will break from the weight of the crop. After cutting back any main branches, thin last year's shoots and cut them back to about 12–18". When you're done, the tree shape should look something like an open hand reaching for a peach, with the tree not much taller than 10' or so.

Peaches are usually unaffected by pests or diseases in northern areas, the occasional exception being **peach leaf curl**. PLC is not a fatal problem but does need to be controlled if you get hit with it. Look for crinkled or puckered foliage in spring. Remove affected leaves and compost them. Spray the tree with lime sulfur or copper early the following spring while it is still dormant (before any buds open!) Onion, garlic or horsetail spray while leafed-out may also be effective.

Peach trees are self-pollinating; they do not need a second tree for pollination. Mature trees will be 10–15' tall by 10–15' wide and should be planted 20' apart. (3-6' trees)

Contender Late. NCT 544 (Winblo x complex parentage of North Carolina selections) DJ Werner, JR Ballington and DF Ritchie intro, Ag Exp Stn, Raleigh, NC, 1988. Extend your peach season with this fairly new high-quality variety is proving to be hardy in northern Maine. Large round bright red and yellow freestone fruit with a slightly raised suture. Firm melting aromatic yellow flesh. Growth habit similar to Redhaven, but fruit ripens 3 weeks later. Resistant to leaf spot. Because it blooms quite late, it might escape late spring frosts. Z3/4.

347A Contender, $30.25

Garnet Beauty Early. A sport of Redhaven discovered by Garnet Bruner in 1951 and introduced in Ruthven, Ontario, 1958. Medium-to-large yellow-fleshed semi-clingstone fruit with excellent flavor. Causing some buzz in northern peach-growing districts. We have two trees on trial at our place. The earliest peach we offer; ripens 12 days before Redaven with similar hardiness. Vigorous and productive tree. Good bud hardiness. Recommended for colder districts. Z4/5.

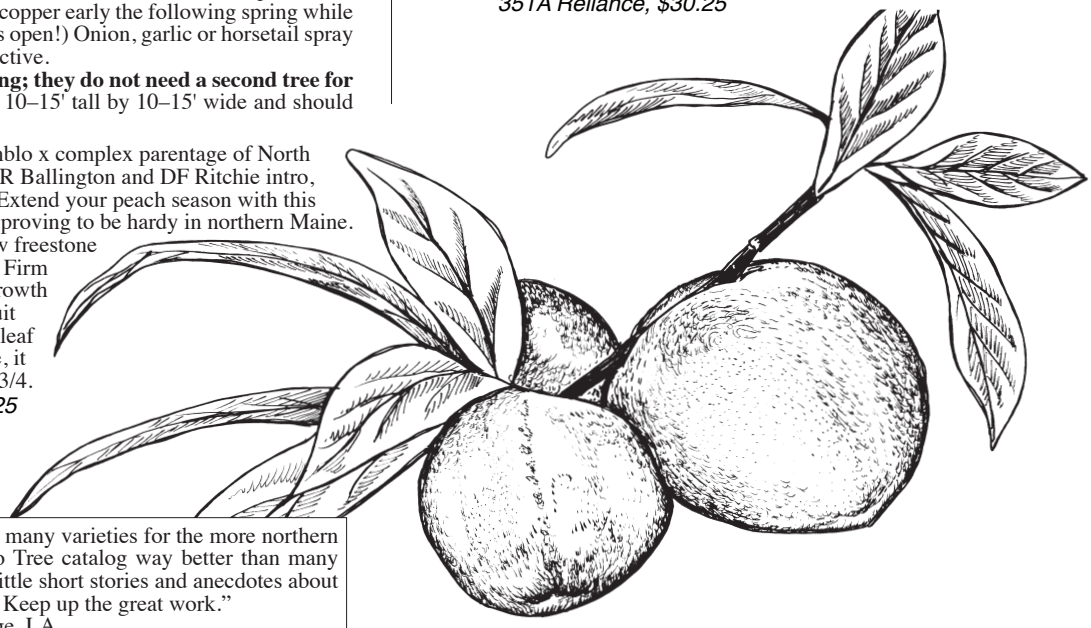
348A Garnet Beauty, $30.25

Redhaven Early-Mid. Halehaven x Kalhaven. MI Ag Exp Stn, 1940. Considered hardy, but not as hardy as Reliance. Medium-sized round fruit with beautiful red and golden-yellow skin and sweet firm fine-textured yellow flesh. Non-browning. Excellent for eating, freezing, canning, shipping. Countless Fedco customers call this their favorite peach; also the world's most widely planted freestone peach. Hardy buds; trees have produced crops in southern Aroostook County orchards. Vigorous highly productive disease-resistant spreading trees are tolerant to bacterial spot. Z4.

350A Red Haven, $30.25

Reliance Early-Mid. Open-pollinated seedling of Minn PHO 4559 x Meredith. NH Ag Exp Stn, 1964. Considered the hardiest peach. Medium-sized, roundish, freestone. Rather dull red blush over greenish yellow. Bright yellow flesh, soft and juicy. Flavor usually considered fair, but we love it in Maine. Often produces large crops. Bears at an early age. May have some resistance to peach leaf curl. Z3.

351A Reliance, $30.25



"Even though the catalog offers many varieties for the more northern growers, I still enjoy the Fedco Tree catalog way better than many other companies. I love all the little short stories and anecdotes about the origins of plant species, etc. Keep up the great work."
–Jeff Tuminello, Baton Rouge, LA

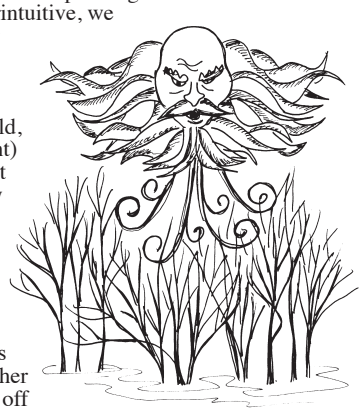
Freeze and Thaw

Much like for us, winter dormancy is vital to trees for restoring vigor and energy for the year ahead. Hardy northern woodies go dormant and resume growth in early spring. The roots and their network of mycorrhizal fungi take a break, with the exception of a little growth that can happen when soil warms up during a thaw. In a "normal" winter, when snow blankets and insulates the ground, a tree or shrub will lose about 40% of its roots without much affect on its overall health. As the plant wakes up, it taps its energy stores to rebuild tissue damaged from deep freezes and then plods on into summer with vigor.

Winter damage starts to show up under two kinds of more extreme conditions: when winter temps drop well below normal or more quickly than normal; and when our normally steady winter season becomes erratic with repeated freeze/thaw cycles and inconsistent snow cover. Under the first, most hardy plants will persevere and often suffer only a little dieback (some branches or branch tips die). We just snip off the dead parts and wait. Just because something looks dead in May, don't yank it. It may only be set back temporarily.

Under the latter condition, even the hardiest plants struggle to adjust quickly enough to the fluctuations. Air bubbles formed by ice inside stems (a totally normal process) sometimes expand during winter thaw cycles and get stuck in the stems to create "freeze/thaw embolisms." These break down the conductivity of the plant's vascular system. Again, some of this is normal, but frequent thaws with refreezing can create insurmountable damage from canopy to root. We watched with horror midwinter as water pooled around our newly planted saplings and froze solid a few days later. Some trees died. A thick layer of woodchip mulch or groundcover around the base of planted trees helps keep the soil insulated and prevents the heaving that makes the roots most vulnerable. If you can't mulch, avoid cultivating ground just before winter. A weedy winter garden is better than a bare one.

With climate shifting, should we be planting bananas instead of apples? Though perhaps counterintuitive, we should consider planting hardier trees and shrubs, not less hardy. We've noticed that the hardiest apple varieties (like Alexander, Duchess, Red Astrachan, Redfield, Trailman and Yellow Transparent) drop their leaves and go dormant in September, even during oddly warm autumns when the other trees in the orchard are still convinced it's July or August. We've also noticed that during hard winters, woodies grown from seed seem to fare better than some named cultivars propagated from cuttings. (Another reason to plant seedlings!) Hold off on the mangoes for now.



Hybrid Plums ***Prunus*** **spp.** Extremely hardy crosses between various Asian and American species; may fruit even after severe winters.

Hybrid plums require a second variety for pollination. Hybrid plum pollination has been glossed over—or avoided—in virtually all catalogs and fruit-growing literature for generations. Here's what we recommend:

Plant a cluster of trees close enough together for the branches to mingle. Our clusters number from 3 to nearly a dozen trees planted. They can be planted close to form a thicket, or spaced 15–20' in an orchard setting. Include native plum pollinators (*Prunus americana* seedlings or varieties) among the hybrids. With some decent sunshine during bloom, you should get good fruit set. We suggest Toka and South Dakota as good pollinators in addition to *P. americana* or *P. nigra* seedlings or grafted trees in the orchard. We include the American plum seedling in this hybrid section because it may be the best pollinator for the hybrids.

Bloom times are similar for the varieties we offer; however, some growers have been concerned that the American plums, including South Dakota, bloom later than the hybrids. Some years, this can be an issue. Ideally you would plant at least 4 different varieties. Regardless of which ones you plant, you should get a good mix of pollen when each variety is in bloom. If you have the space, consider our Hybrid Plum Collection to cover all the bases of pollination.

Pollination may also improve with heat. Growers in warmer districts often report better success with pollination. This may be because the heat prolongs the bloom season, increasing the number of trees with simultaneous available pollen.

A long cold spring may also help with pollination. When the plums finally bloom, they all bloom at once.

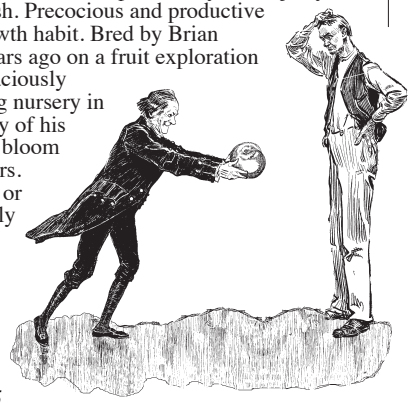
At maturity, hybrid plums are roughly 15–20' tall by 15–20' wide.

Much less susceptible to black knot than European plums. (3-6' trees)

American Plum Seedling *P. americana* 15-20' Not a hybrid, but included here since it may be the best pollinator for hybrid plums. Seedling plum that grows in thickets and produces very decent red, yellow and orange 1" fruit, suitable for fresh eating, canning and freezing. Spectacular white bloom in spring. Red fall color. Plant singly as a graceful specimen, or let the branches intertwine with other plums for maximum pollination, planting one American plum for every 3–4 hybrid trees. Tends to sucker freely. This tree stock is significantly larger than plum seedling rootstock (see page 16). Extremely hardy. Z3. **ME Grown.**

355A American Plum Seedling, $21.00

Black Ice Midsummer. P. Lydecker [*P. besseyi* x (*P. salicina* Oka x *P. sal*. Z's Blue Giant)] U of WI, River Falls, 2006. Large 2" round early-ripening high-quality hardy blue-black dessert plum. Very sweet juicy reddish-purple semi-freestone flesh. Precocious and productive tree with a naturally compact growth habit. Bred by Brian Smith, whom we visited a few years ago on a fruit exploration trip in the Upper Midwest. He graciously showed us all through his amazing nursery in River Falls. He was growing many of his plums in huge tubs, manipulating bloom time using greenhouses and coolers. This enabled him to cross species or varieties that would never normally flower together. Though we're not fans of plant patenting, we are pleased to offer his first major introduction. The literature recommends Toka or La Crescent as a pollinator. Now in trials at our farm. **PPA.** Z3. **ME Grown.**



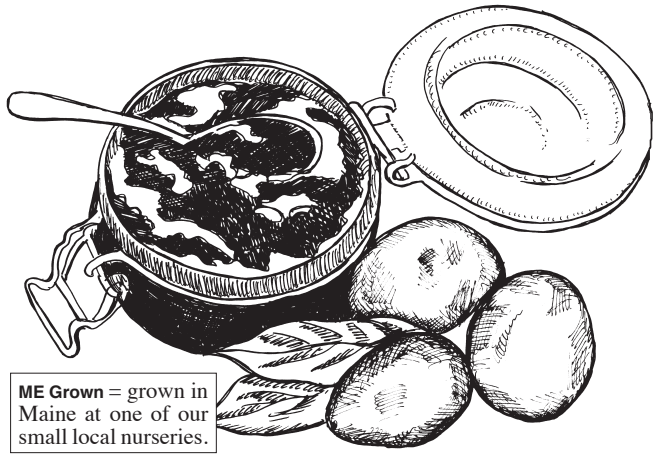
356A Black Ice, $31.25

Gracious Late Summer. Mandan 41-15 [open-pollinated seedling of Emerald (*P. sal*. Burbank x *P. a*. Brittlewood) probably x Red Wing (*P. sal*. Burbank x *P. a. mollis* Wolf)] Northern Great Plains Field Stn, Mandan, ND, 1957. Oval-to-roundish yellow-orange clingstone fruit with coral-red mottling. Yellow-orange firm juicy sweet flesh. We received our scionwood many years ago from the late Bob Kurle, one of the early members of the North American Fruit Explorers. Bob passed along his huge collection of plums, including this one, to Fedco. Upright spreading tree. Z3/4. **ME Grown.**

358A Gracious, $31.25

Grenville Late Summer. *P. sal*. Burbank x *P. nigra*. Canada Dept of Ag Res Stn, Ottawa, 1941. Large dark rosy-red clingstone fruit. Yellow flesh has excellent flavor. Vigorous early-blooming tree. Most of the hybrid plums were developed using Asian varieties crossed with *P. americana*. Grenville was bred using *P. nigra*, the extremely hardy Canada plum. Pollination requirements are the same as other hybrids. Like *P. nigra*, very hardy. Z3. **ME Grown.**

359A Grenville, $31.25



ME Grown = grown in Maine at one of our small local nurseries.

Hanska Summer. *P. a*. x *P. simonii* NE Hansen intro, Brookings, SD, 1908. Medium-sized bright red fruit with a heavy bluish bloom. Firm fragrant yellow semi-freestone flesh. When cooked, the fruit has a strong apricot-like flavor reminiscent of its Chinese "apricot plum" parentage. The fruit resembles its sister seedling, Kaga. *Hanska* is the Sioux word for 'tall' referring to the tree's fast growth in the nursery. We agree! It's grown quite rapidly in our orchard. Though Hansen gave it a lengthy write-up in his 1927 Plant Introductions Bulletin, Hanska all but disappeared and remains one of the rarest of his introductions. We're happy to offer it in our catalog. Z3/4. **ME Grown.**

360A Hanska, $31.25

Kahinta Mid-Late Summer. Luther Burbank's *P. sal*. Apple x *P. a*. Terry. SD, 1912. Another intro by the great plant breeder NE Hansen. Large 1 1/2" roundish slightly pointed fruit is flattened at the stem end. Brilliant red-purple tart skin and translucent yellow-orange tart but quite flavorful flesh. Easy to peel; peeled fruit looks like a peeled tangerine. Or you can bite a small hole in the skin and suck out the juicy flesh. Clingstone. Very good for fresh eating or canning. Medium-sized spreading tree. Kept pruned, our 20-year-old tree remains about 8' tall. Bears more reliably than most other varieties in our orchard. *Kahinta* is the Sioux word for 'sweep.' Rare. Z3. **ME Grown.**

361A Kahinta, $31.25

La Crescent Late Summer. *P. sal*. Shiro x *P. a*. Howard Yellow. U Minn, 1923. Also known as **Golden La Crescent** or **Golden Minnesota**. Most of the hybrid plum varieties are colored with some variation of red and orange with a little purple tossed in. Yellow-skinned La Crescent is one notable exception. The beautiful roundish tender thin-skinned yellow fruit is sometimes blushed with a little pink. Tender yellow juicy flesh of excellent quality is sweet, aromatic and suggestive of apricots. Freestone. Upright spreading vigorous tree. Z3/4. **ME Grown.**

362A La Crescent, $31.25

Pamela Late Summer. *P. a*. seedling, Westmanland, ME. High-quality sweet-fleshed totally freestone medium-small fruit. Reddish skin with yellowish undertones. Productive and extremely hardy. Flowers with a pinkish tone. An excellent pollinator for other hybrid and American plums. Many years ago, longtime Fedco growers Steve and Barb Miller purchased a hybrid plum from another nursery. The grafted plum never did well but the rootstock sprouted from below the graft and eventually fruited. It was so good, they began to graft it around the farm. When Steve first told us about the plum, he just called it Pam (from *P. americana*). We decided to dignify it a bit. Z3. **ME Grown.**

364A Pamela, $31.25

Pembina Early Summer. *P. sal*. Red June x *P. n*. Assiniboine. NE Hansen intro, SD Exp Stn, 1923. Large pointy bright red half-freestone fruit with bluish bloom. Dark golden-orange flesh is firm and apricot flavored. One of the first of the hybrids to ripen in summer, about the same time or a bit earlier than Underwood and well before the bulk of the plum crop. Z3/4. **ME Grown.**

365A Pembina, $31.25

Purple Heart Late Summer. Elwyn Meader intro, Enfield, NH, 1968. Medium-sized clingstone fruit with red-purple skin and flesh. Some say the most delicious plum we grow. Meaty, mild and rich with no astringency. We love it. Origins shrouded in mystery. It was brought to the great plant breeder Professor Elwyn Meader by a fellow who passed away before Meader could ascertain the plum's origin. It has uncertain pollination requirements, but we planted ours next to Black Ice and both are fruiting well. Shows tip or even branch damage following colder winters in central Maine. Small tree. Z4/5. **ME Grown.**

366A Purple Heart, $31.25

South Dakota Late Summer. SD 27. *P. a*. Parentage unknown. U Minn/SD Ag Exp Stn, 1949. Small-to-medium fruit has firm yellow skin with bright red blush. Medium-firm yellow flesh is meaty, juicy, sweet. Excellent fresh-eating quality. Fully freestone. Because of its very long flowering period and American pedigree, we recommend South Dakota as a pollinator for all hybrid plums. In our orchard it's still blooming when the other plums have dropped their flowers. Also ripens after the hybrids are done. Developed by NE Hansen before 1907. One of Hansen's students took it to the breeding program at the University of Minnesota where it was later introduced. Vigorous tree. Z3. **ME Grown.**

368A South Dakota, $31.25

Tecumseh Midsummer. *P. sal*. Shiro x *P. hortulana* Surprise. NE Hansen intro, SD Stn, 1923. Excellent fresh-eating clingstone. Round-ovate bright red fruit with a bluish bloom. Firm juicy subacid yellow flesh. Reliable and productive. Not well known but considered by some enthusiasts to be one of the best introductions of the great 20th-c. plant breeder NE Hansen. Named in honor of the celebrated Shawnee chief Tecumseh, a leader and great orator who worked for tribal unity and refused to sign the Treaty of Greenville in 1795. Z3/4. **ME Grown.**

369A Tecumseh, $31.25

Underwood Midsummer. MN 91 [(*P. sim*. x *P. sal*. Shiro) x *P. a*. Wyant] U Minn, 1921. Medium-to-large 2" dull red fruit. Firm sweet juicy golden-yellow semi-freestone flesh, very good for eating and cooking. Long picking season. Blooms earlier and longer than most hybrids and appears to be a very good pollinator for other hybrid plums, including Purple Heart. Northern Maine grower Steve Miller considers it one of his most reliable bearers. Long ripening season. Vigorous large spreading tree. Z3. **ME Grown.**

371A Underwood, $31.25

Waneta Midsummer. (*P. sal*. Apple x *P. a*. Terry) NE Hansen intro, SD Exp Stn, 1913. Released when hybrid plums were an important and commercially viable crop. Named after a Yanktonai youth who won fame in the War of 1812 and later became a great chief. Large, somewhat pointed, 1½–2" reddish-maroon fruit. Sweet tender translucent orange flesh is very juicy but not dripping. Medium-thick skin, tart and easy to peel. Delicious overall taste. Hansen said of Waneta: "My belief is that in this variety I have combined the best points of the native and the Japanese plum. It is probably the largest [fruit] of over 10,000 seedlings." Early blooming healthy open spreading tree bears reliably in our orchard. Z3. **ME Grown.**

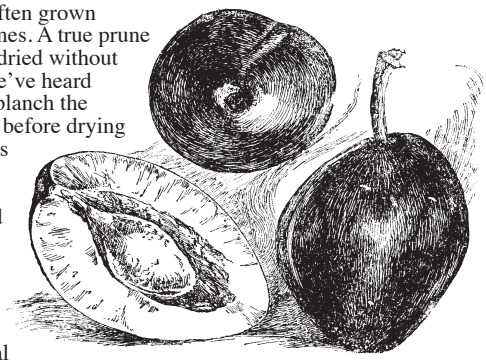
372A Waneta, $31.25

Hybrid Plum Collection Our choice of 7 trees to begin your plum orchard, including at least two pollinators, one of which will be an American Plum Seedling, *P. americana*. Trees are individually labeled. All hardy to Z4 and **ME Grown.**

377A Hybrid Plum Collection, bundle of 7, $194.00

Without the bitterest cold that penetrates to the very bone, how can plum blossoms send forth their fragrance to the whole world?
–Basho

European plums *P. domestica*



Delicious fresh and often grown commercially for prunes. A true prune is a plum that can be dried without the pit fermenting. We've heard recommendations to blanch the plums for 45 seconds before drying them. European plums produce smaller fruit and are generally not as hardy as the hybrid plums, though they can handle heavier soils and are less prone to brown rot. Unlike hybrids, they are prone to the fungal disease black knot, which looks like black chewing gum and appears on branches. While not necessarily fatal, it must be kept in check by removing and destroying infected branches. Trees grow upright and are usually trained to a central leader. Although **European plums are self-pollinating**, planting two different varieties will improve pollination. (Will not pollinate hybrid plums.) Mature trees are roughly 15–20' by 15–20', or smaller. Space 20'apart. (3-6' trees)

Mount Royal Late Summer. Chance seedling, Outremont, Quebec, before 1903. Popular plum in Quebec and the northern U.S. for many years. Also called Mont-Royal. Discovered by Mr. Corse in or near Montreal sometime between 1830 and 1850. Bears abundant annual crops of medium-sized roundish dark purple fruit. Often considered the sweetest of the European plums. The flesh is greenish-yellow, juicy and firm. Use fresh, dried, frozen, canned and in preserves. Medium-sized tree is open with good crotch angles and requires only moderate pruning. Z3.

378A Mount Royal, $31.25

President Summer. Thomas Rivers intro, Sawbridgeworth, England, 1901. Large round-oblong dark blue-black freestone fruit. Fine-grained yellow flesh is crisp and sweet with good acid balance and a slight astringency. Keeps a month in the fridge. The last of the European plums to ripen, about 3 weeks after Stanley. Vigorous upright spreading productive tree. Bred by one of the most revered British horticulturists of the 19th c. Resistant to black knot and bacterial spot. Z4/5.

380A President, $31.25

Stanley Late Summer. Agen x Grand Duke. NY Stn, 1926. Most popular European prune plum in America with the possible exception of 'Italian'. Excellent for cooking, eating, canning and drying. Medium-to-large oval fruits with dark blue skin. Green-yellow firm but tender juicy fine-grained sweet flesh. Reliably bearing fast-growing adaptable medium-to-large funnel-shaped tree produces healthy vigorous annual crops. Z4.

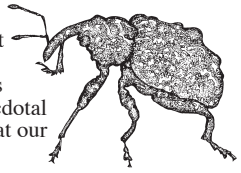
381A Stanley, $31.25

Fruit-growing websites

Whether you use organic or conventional orchard practices, several websites can provide you with a great deal of information about insect and disease pressure, spray timing, frost predictions and a whole lot more. Here are a few of the best:
UMaine Cooperative Extension: umaine.edu/ipm/programs/apple/
Cornell University: fruit.cornell.edu/
University of Vermont: uvm.edu/~fruit/
UMass Extension Fruit Program: ag.umass.edu/fruit
Holistic Orchard Network: groworganicapples.com/

Plum Curculio... and garlic

Plum curculio is a small pesky insect, a terrible plum and apple pest. We have read that laying sheets of cardboard under plum (and apple) trees will smother the PC pupae developing in the soil. Many organic growers spray Surround clay powder on their trees to combat this weevil. (See our Seeds & Supplies catalog, or visit fedcoseeds.com/ogs, for this and other orcharding supplies.)



Many years ago we planted garlic near one of our apple trees and neglected to harvest all the bulbs. Now we have a small colony of garlic plants around the tree. Recent reports are touting garlic as a curculio deterrent. Anecdotal evidence suggests the garlic may be working at our place. Plant more garlic!

Small Fruits & Berries

Raspberries *Rubus* spp.

We love raspberries: fresh or frozen, in smoothies, jam and especially pie. We even like the foliage—best taken from the first-year primocanes—which makes a delicious and healthful tea. A leaf and fruit vinegar is very high in minerals, and the leaf tea makes a great astringent and tasty tonic. The root bark is also medicinal. Native to North America, Europe and Asia, they are usually identified as *R. idaeus* or *R. i.* var. *strigosus*. 53 different *Rubus* species and subspecies live in Maine.

A second variety is not needed for pollination.

Please note: Raspberries have very fine, fibrous roots. Often they do not sprout from the plant stem after planting. This is okay. Be patient! Keep them well watered and they should all break dormancy, sprout from the roots and thrive for many years to come. All of our raspberry canes are well rooted, bare root and certified virus-free.

EVERBEARING RASPBERRIES

Everbearing raspberries bear on first-year canes (primocanes). Particularly desirable for northern growers because they can die (or be cut) to the ground and still produce a sizable crop the following year. In central Maine the first of these ripens in mid-late August.

Anne Late. JEF-b1 (Amity x Glen Garry) U of MD, 1998. Everbearing sweet flavorful pale yellow raspberry ripens in fall. Large cohesive conic fruit stores decently, is firmer than other yellows. Semi-vertical canes may sucker less than most everbearing types. Cut it entirely to the ground after the season is over. Resistant to phytophthora root rot. Z4.

385A Anne Raspberry, bundle of 10, $29.50

August Red Late. NH R7 [Durham x NH 102 (dwarf F2 seedling x Taylor)] x NY 287 [NY 18810 (Marcy x Indian Summer) x NY 20990 (R. strigosus selection)] Developed by EM Meader, UNH, 1973. Considered the hardiest of the everbearing types—the last hope when no other raspberry will survive. Medium-large crimson fruit has excellent flavor. Compact 3' bush bears earlier than other everbearers, even Polana. Productive midsummer, about Aug. 10 in central Maine. We are very pleased to offer this rare variety, bred by Elwyn Meader. Z3. **ME Grown.**

386A August Red Raspberry, bundle of 5, $29.50

Polana Late. Heritage x Zeva Herbsternte. Res Inst of Pomology and Floriculture, Brzezna, Poland, 1991. Very early fruiting everbearing red raspberry has performed very well in our Fedco trials. Large firm berries with very good flavor on vigorous and productive short canes. Ripens in late August or early September in northern districts. According to David Handley of UMaine, "as near a thing to a sure bet." Easy to pick: the berries hang off the tops of the plants. Suckers freely. Z4.

387A Polana Raspberry, bundle of 10, $29.50

Tending my inner garden went splendidly this winter. Suddenly to be healed again and aware that the very ground of my being—my mind and spirit—was given time and space in which to go on growing; and there came from my heart a radiance I had not felt so strongly for a long time…
–Rainer Maria Rilke, in a letter to Lisa Heise, 1922

Agri-gel Highly recommended for raspberry planting. See p. 33.

L666A Agri-gel, $3.00

SUMMER-BEARING RASPBERRIES

Summer-bearing raspberries bear on second-year canes (floricanes). Midseason berries ripen around late July in central Maine.

Boyne Early-Mid. Chief x Indian Summer. Morden Res Stn, Manitoba, Canada, 1960. Round-conic medium-sized berries with an intense deep dark almost purple color. Strong aromatic tart raspberry flavor and a perfect medium-soft texture. Grower John Meader speaks glowingly of Boyne, calling it "an excellent, excellent variety. Boyne is the one to beat if you're going to introduce a new raspberry." Leaves tend to curl down over the fruit making it harder to pick if you're in a hurry. According to friends who make honey and fruit butters, there is no better raspberry for processing. Disease resistant. Extremely hardy. Z3.

388A Boyne Raspberry, bundle of 10, $29.50

Killarney Early. Chief x Indian Summer. Morden Stn, Manitoba, Canada, 1961. Produces medium-to-large round crumbly fruit of excellent quality over a long season. Deep red summer-bearing cultivar ripens after Prelude and before Nova. Same parentage as Boyne but firmer texture and brighter color. Sturdy 4' canes. Hardy, and yields consistently. Z4.

389A Killarney Raspberry, bundle of 10, $29.50

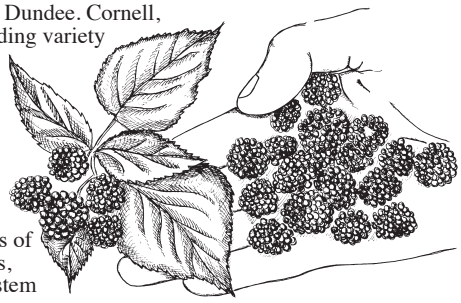
Latham Mid. MN4 (King x Loudon) U Minn, 1920. A standard raspberry for almost a century, extremely popular and widely grown. Large bright red 1" fruit is roundish, firm, a little crumbly and sprightly sweet, full-flavored and aromatic. Great for fresh eating, canning, freezing, jam, juice or pie. Ripens over an extended season making it an ideal candidate for the home garden. Canes are 4–5' tall and highly productive. Not as spiny as most raspberries. Widely adaptable and very winter hardy. Disease resistant. Z3.

390A Latham Raspberry, bundle of 10, $29.50

Royalty Purple Mid. [(Cumberland x Newburgh) x (Newburgh x Indian Summer)] NY Stn, 1982. Their distinctive flavor is different from the red raspberries, with a hint of black raspberry. A favorite for fresh eating among those who know it. Cohesive fairly firm large berries make outstanding jam and jelly, too. Extremely robust minimally suckering plants are very productive and open-formed; the berries are eye-level and easy to pick. Ready to harvest when they are deep purple, somewhat later than the reds. Plant in hills (see sidebar, next page). Disease resistant. Usually considered Zone 4 but is proving itself into Zone 3 with occasional slight tip dieback. Z3/4.

391A Royalty Purple Raspberry, bundle of 5, $29.50

Black Raspberries Black raspberries bear on second-year canes.



Jewel Midsummer. Bristol x Dundee. Cornell, Geneva, NY, 1973. High-yielding variety with superb quality and flavor. Glossy large firm juicy fruit with rich sweet lingering flavor. Larger than Bristol. Excellent choice for fresh eating, jams and jellies. Cohesive texture holds shape with refrigeration. Black raspberries contain high levels of antioxidants and anthocyanins, strengthening the immune system when eaten regularly. Freeze excess berries for winter to help combat colds and flu. Vigorous disease-resistant canes. Z4.

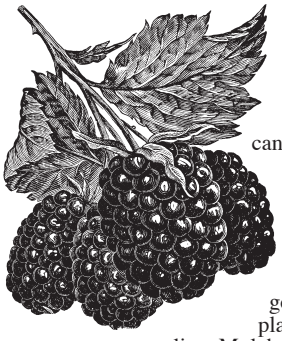
392A Jewel Black Raspberry, bundle of 5, $29.50

Blackberries Blackberries bear on second-year canes.

Nelson Midsummer. Nelson has been surviving Maine winters for at least a century. Introduced to us by the descendants of Nelson Fronk, whose 1928 family photograph taken on their farm northeast of Farmington shows the blackberries growing next to the barn. John Meader grows Nelson and calls it "exceptionally hardy," one of the most enduring blackberries he has ever grown. Tall sturdy upright inch-thick canes can be grown on posts but also do well free standing. Fruit is moderately large and quite juicy with true blackberry taste. Highly productive: 16–18 blossoms on the central stalk is the most John has ever seen on any blackberry. He gets four good pickings from his patch over two weeks in mid-August. Excellent jelly and good fresh eating. Disease resistant and certified virus-free plugs. Like all blackberries, spreads quickly so give it room. Z4, maybe Zone 3. (well-rooted plugs)

394A Nelson Blackberry, bundle of 5, $29.50

Growing Raspberries and Blackberries



Cane fruits have shallow perennial roots. They prefer full sun, good air circulation and well-drained soil rich in organic matter. Avoid soils where tomatoes, peppers, potatoes, strawberries or wild brambles have grown. A well-kept patch can last 10–20 years.

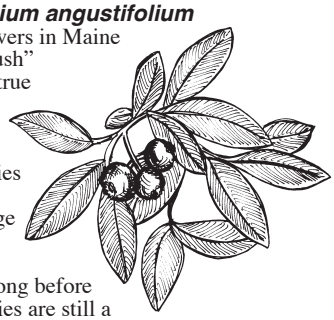
Prepare planting holes by adding composted manure (15 bushels dry or 10 bushels fresh per 100 sq ft) and make each large enough to spread out the roots. Do not allow the fine roots to dry out. We suggest soaking roots in Agri-gel (**L666A**, page 33) for 1–2 hours before planting. Plant 1–2" deeper than the nursery line. Mulch with a thick layer of woodchips. Fertilize liberally each spring with up to 100 lbs manure or compost, 8 lbs bloodmeal or 14 lbs soybean meal per 100-ft row. Some sources recommend additional nitrogen feeding each June and August. Plants require 2" water per week during the growing season.

• **Everbearing raspberries:** Plant 9–15" apart. Because everbearing types bear fruit on first-year and second-year canes, you have a couple of options. In warmer districts, you can leave the first-year canes to overwinter after they fruit. The following year, you will get a light crop in early summer from those now two-year-old canes, followed by a larger crop later from the new first-year canes. In colder areas generally you would cut all canes to the ground in late fall after the leaves drop, or in early spring; new first-year canes will fruit in mid-late summer.

• **Summer-bearing raspberries:** To make a hedgerow, trellis between two wires about 3–4' off the ground and 18–36" apart. Space plants 2' apart. After harvest, prune to the ground the canes that carried fruit (or remove them the following spring). Thin the fresh first-year canes to about 3–4" apart. They will bear fruit next year. During the growing season cut back canes to 5' if they are bending over severely.

• **Purple and black raspberries and blackberries:** Plant in hills 3–4' apart, 3–4 plants per hill. Tie to a center post for support, if needed. Basic pruning is the same as summer-bearing raspberries. As they fill in, thin to 5–8 canes per hill. During the early summer, pinch back tip of first year canes to 2½–3' tall. This will encourage lateral fruiting branches. You may run a wire between hills for lateral branching but this is not necessary. In the following spring, cut these fruiting laterals back to 8–12 buds.

Lowbush Blueberry *Vaccinium angustifolium*



6-24" and spreading. Blueberry growers in Maine usually don't bother with the "lowbush" distinction; to them, this is the only true blueberry. Folks from away may know these berries from the grocery freezer, labeled Maine Wild Blueberries. Though plants and berries are diminutive, the taste is supreme. Lustrous blue-green medicinal foliage is good in teas and turns an amazing combination of bronze, orange and scarlet in the fall. Grown in Maine long before Europeans came downeast, blueberries are still a local favorite and cultivated on thousands of acres.

To speed harvesting, berries are usually raked rather than hand-picked. You comb the rake a bit into the bushes (but not deeply so!), tilt it back and the berries pop off and roll into the pan. As the saying goes, "the lighter the hand, the more berries in the pan." You will also inevitably accumulate small twigs and leaves and various other odds and ends. Best raking is done on a breezy day. Lift the rake above your pail (we use a 5 gallon bucket) and pour. Ideally the berries will stream into the bucket while the twigs and leaves flutter off in the wind. Native to northeastern U.S. Spreads by seed and rhizomes. Transplants will gradually form colonies but can be slow to get established. Z2. **ME Grown.**

Lowbush Blueberry Sod Squares 6x6" sods from blueberry fields of Ewing Fruit Co. in Warren, ME.

396A Lowbush Blueberry Sod, $16.00
396B Lowbush Blueberry Sod, bundle of 5, $69.00

Growing Lowbush Blueberries

Woodsy dry poor acid soil (pH 4.0–5.2) is a prerequisite for lowbush blueberries. If you've got white pine, you're probably all set. Plant 12" apart each way and cultivate as a groundcover. Generally self-pollinating; other blueberries nearby will help ensure pollination. Full sun is best for maximum fruit production. Keep your patch weed free, and keep it watered while it's getting established.

Highbush Blueberries ***Vaccinium corymbosum*** Many of Maine's lakes are lined with massive stands of highbush blueberries, native to North America. Grazing the shore requires only time and a suitable vessel; we prefer kayak or canoe. The beautiful vigorous shrubs are extremely easy to grow at home, productive and reliable. By planting several varieties, you can harvest berries from early July through most of August. Bears first crop 3–5 years after planting. Productive for at least 20 or 30 years. Berries may turn blue before they reach their peak flavor. Leave them on the bush until they are fully ripe. Check a few before you pick them all! **Two varieties are required, three or more recommended, for pollination.** (1-2' transplants)

Blueray Early-Mid. 4-6'. (GM 37 x CU-5) USDA, NJ, 1955. Large firm dark blue berries of high dessert quality in small clusters. Considered the best-tasting by nearly everyone who grows highbush blueberries. Very vigorous bush with upright spreading habit. Consistently productive. Z4.

397A Blueray Blueberry, $14.50

Bonus Mid-Late. 5-6'. USDA seedling selected by Dr. Arthur Elliott of Otter Lake, MI. First sold to the public in 1990. A newer cultivar making big waves with extra-large Bonus-sized sweet berries on a high-yielding upright bush. May be the largest berry yet. Ripens a little after Elizabeth. Good in the home garden and prized by U-pick operations for how fast it fills a quart. Showing good disease resistance. Z4.

398A Bonus Blueberry, $14.50

Elizabeth Mid-Late. 5-6'. Discovered by Elizabeth White, Whitesbog, NJ, and released in 1966. Friend and avid fruit grower Dan Kennedy of Searsmont, ME, grows 17 different varieties of highbush and rates Elizabeth and Blueray as his top favorites. He describes the bushes as bearing dense clusters of large fruit with a balanced flavor of sweet and tart. Stores well in refrigeration. Large vigorous upright shrub has strong spreading lateral branches. Z4.

399A Elizabeth Blueberry, $14.50

Elliott Very Late. 4-6'. Burlington x [Dixi x (Jersey x Pioneer)] USDA, 1974. A real season-extender. Considered the latest of all varieties, Elliott ripens two weeks after Jersey. Loose clusters of medium-sized very firm mild-flavored light blue berries. Slightly spreading somewhat bushy upright plant is highly productive every year, in part because it blooms late and escapes spring frosts. Z4.

400A Elliott Blueberry, $14.50

The Storm

Now through the white orchard my little dog
romps, breaking the new snow
with wild feet.
Running here running there, excited,
hardly able to stop, he leaps, he spins
until the white snow is written upon
in large, exuberant letters,
a long sentence, expressing
the pleasures of the body in this world.
Oh, I could not have said it better.

–Mary Oliver, from *Dog Songs* (2013)

Jersey Mid-Late. 5-7'. Rubel x Grover. USDA, 1928. The beloved old standard of blueberry introductions to which new varieties are compared. Medium-to-large dark blue berries in large loose clusters. Vigorous erect hardy bush. Productive, adapted to a wide range of soils, highly praised, easy to grow and suited to the New England climate. Z4.

401A Jersey Blueberry, $14.50

Meader Early-Mid. 5-7'. Elwyn Meader intro, UNH Ag Exp Stn, Durham, NH, 1971. Medium-large medium-blue fruit with excellent flavor. Sweet with a hint of acid. Vigorous upright open lightly spreading form. Very hardy. Z4 or even Z3.

402A Meader Blueberry, $14.50

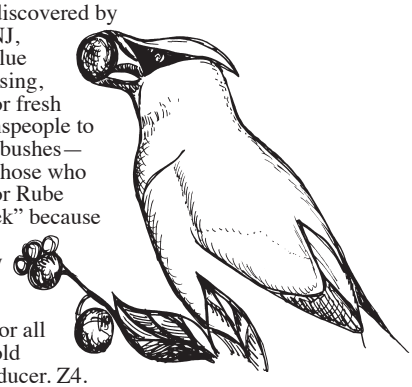
Patriot Early-Mid. 4'. US3 (Dixi x Michigan LB-1) x Earliblue (Stanley x Weymouth) U Maine, 1976. Partial lowbush parentage. Adaptable to many soil types. Productive berry will fill your super bowl every year! Large firm berries with excellent flavor. Upright open spreading bush. Tolerant or resistant to some strains of soil fungus. Hardy. Z3.

403A Patriot Blueberry, $14.50

Reka Early. 4-6'. E118 [(Earliblue x Ashworth) x Bluecrop] Ruakura RRC intro, New Zealand, 1985. Flavorful medium-sized slightly tart berries. Higher productivity at a younger age than most other blueberries with consistently high yields for years to come. Fast growing and adaptable, sand to heavy clay. Upright vigorous habit. Z4.

404A Reka Blueberry, $14.50

Rubel Mid. 5-7'. Wild strain discovered by Elizabeth White, Whitesbog, NJ, early 1900s. Small firm light blue tart berries are ideal for processing, baking into pies and muffins, or fresh eating. White asked local townspeople to find 100 of the largest fruiting bushes—the best ones she named after those who found them. Rubel is named for Rube Leek—White dropped the "-eek" because it "savored of onions." A hundred years later this variety is still being cultivated, with research showing it to be one of the highest in antioxidants for all highbush types. Parent of the old favorite Jersey. Consistent producer. Z4.



405A Rubel Blueberry, $14.50

St. Cloud Early-Mid. 4'. B19 [(G65 x Ashworth) x US3] U Minn, 1990. Lowbush-highbush cross with firm dark blue medium-large highly flavorful sweet fruit. We're excited to see how this newer offering compares to our old favorites. Crisp texture, stores well in refrigeration. Foliage turns orange in fall. Short spreading canes reach 4' at maturity. Z3.

406A St. Cloud Blueberry, $14.50

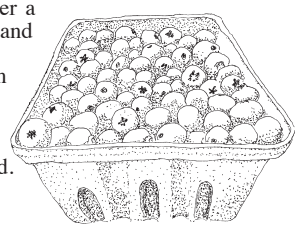
Growing Highbush Blueberries

Shallow-rooted, highbush blueberries like light acid soil (pH 4.0–5.2) with plenty of organic matter, good drainage, and plenty of water. Space them 3–6' apart (3' for the shorter varieties) in rows 8–10' apart. If your soil lacks acidity, add peat, leaf mold, or 1 cup elemental sulfur per bush.

Dig a hole at least twice the size of the root ball. If you use peat, soak it and then mix it with soil at a one-to-one ratio. Plant at the same depth as in the nursery. Do not let the roots dry out! Pack the soil firmly and water thoroughly. Plants require at least 1" water per week during the growing season. On most soils, blueberries require regular applications of nitrogen. In the spring, apply a high-nitrogen fertilizer, such as 1/2–1 qt composted hen manure per plant.

Fruit is produced on vigorous one-year shoots off healthy canes. As canes age they become twiggy and less productive. Begin pruning after three years. Head back long pieces of new growth for a bushier plant. Cut out weak or dead canes and dead tips. Each bush should be allowed to grow 6–10 canes varying in age from 1–6 years old. Thereafter, remove dead canes and those over 6 years old to encourage new replacement canes. Bushes with regular moderate pruning produce the most berries.

Berries may need net protection from birds. One of the best arrangements we've seen is John Meader's netted "house" in Buckfield. He has about 40 bushes growing under a framework made of posts and 2x4s and completely covered in netting.



Competition with grass may weaken and kill your blueberries. Mulch heavily (3–6" or more) every year with pine needles, cardboard, wood chips, hay, sawdust, even old slab wood. When using sawdust you may want to compensate by adding extra nitrogen.

Strawberries ***Fragaria* x *ananassa*** A major highlight of every summer is picking strawberries. In central Maine strawberry season usually coincides with the summer solstice. Although no one knows where the common name *strawberry* originated, idle speculation is that it comes from the practice of putting straw down between the rows for pickers to sit on while they sample the fruit and catch up with each other.

Modern strawberries, developed about 1830, are a hybrid of *F. chiloensis* (native of Chile) and *F. virginiana* (native of North America). Royce Bringhurst of the UC-Davis developed everbearing strawberries from wild plants found in Utah's Wasatch Mountains. He crossed these with modern varieties and introduced the first everbearers in 1980.

50 plants will plant from 50–100'. (virus-free bare-root stock)

EVERBEARING STRAWBERRIES

Everbearing, or day-neutral, strawberries flower regardless of day length as long as temperatures are between 35 and 85°, and produce fruit from June to October. They are uncommonly productive—about 1 lb of fruit per plant the first year, and slightly less the second year. Productivity peaks in August the first year. The second year, berry size decreases in the hottest weather and increases in cooler weather. After second year, turn under and start again.

Albion CN220 (Diamante x Cal 94.16-1) UC Davis, 2006. Everbearing strawberry with very large conical firm fruit, excellent flavor and good shelf life. High yielding though requires more water and nutrients than other everbearers. Fedco's Alice Percy switched to Albion from Seascape and never looked back. She says, "The best Seascape will have better flavor than the best Albion, but Albion is definitely no slouch for flavor. It continues to bear reliably and produce large delicious berries in hot weather, when Seascape will stop producing, button up, or become bitter." Plants are large and need extra space to produce bigger berries. Resistant to verticillium wilt, phytophthora crown rot, and anthracnose crown rot. **PPA.** Z4.

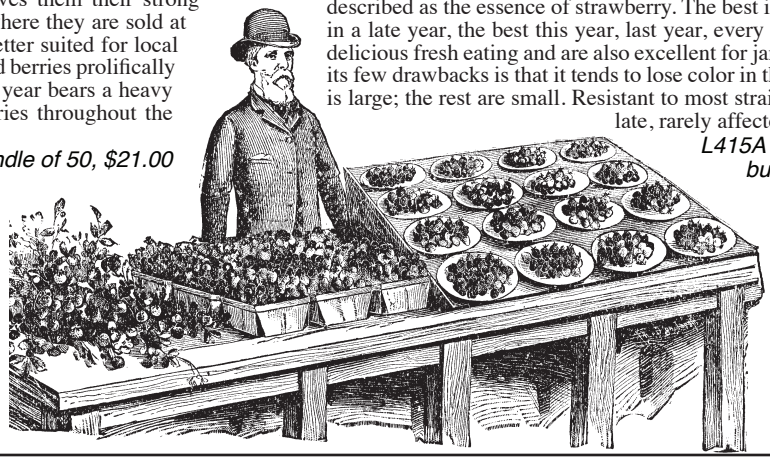
L409A Albion Strawberry, bundle of 50, $21.00

Mara des Bois (Gento x Osara) x (Red Gauntlet x Korona) Hybridized by Jacques Marionett, Soings-en-Sologne, France, 1991. Everbearing strawberry claimed to be the most flavorful and fragrant of the day neutrals, often referred to as "gourmet." Berries are high in methyl anthranilate, the volatile compound that gives them their strong fragrance. Commercially grown in France where they are sold at a premium. Shorter shelf life makes them better suited for local markets. Plants bear medium-small glossy red berries prolifically from summer into fall the first year. Second year bears a heavy spring crop with continuously ripening berries throughout the summer. Z4.

L410A Mara des Bois Strawberry, bundle of 50, $21.00

Seascape CN 49. Developed by Royce Bringhurst, UC Davis, 1991. Everbearing strawberry with bright red medium-to-long conic high-yielding firm productive reliable fruit. Excellent flavor. Broad resistance to fungal diseases. Somewhat susceptible to common leaf spot and two-spotted spider mite. Very hardy. Z3.

L411A Seascape Strawberry, bundle of 50, $21.00



JUNE-BEARING STRAWBERRIES

June-bearing plants begin bearing their second year and can produce for up to 5 years.

Galletta Early. (NCH87-22 x Earliglow) NCSU, 2010. Newer variety has quickly gained popularity among strawberry growers in Maine. Large glossy bright red fruit not only ripens before Earliglow, but also has great flavor. Benji Knisley of Sand Hill Farm says she likes it almost as much as her long-time favorite Earliglow. Highly productive and maintains fruit size. This is only our second time offering Galletta, so let us know what you think. Vigorous plants are tolerant to red stele and foliage diseases. **PVP.** Z4.

L412A Galletta Strawberry, bundle of 50, $21.00

Honeoye Early-Mid. NY 1409 (Vibrant x Holiday) NY Station, 1979. Folks pronounce it *honey-eye*. Tough, hardy, vigorous, extremely productive and easy to grow. The freezer-filler of the strawberry patch. Produces large conic bright red fruit over a long fruiting season. Firm flesh with tart—and surprisingly good—flavor. Excellent freezing quality. A week before Jewel. Probably the most popular commercial berry in the Northeast. Plant in well-drained soil to avoid red stele. Susceptible to verticillium wilt. Z3/4.

L413A Honeoye Strawberry, bundle of 50, $21.00

Jewel Mid-Late. NY 1324 [(Senga Sengana x NY E-58) x Holiday] NY Stn, 1985. Shaun Keenan of Sand Hill Farm suggested we add Jewel to our list; he even went so far as to say that Jewel tastes almost as good as Sparkle. Although we don't think we'd go quite that far, we were very impressed with the berry. Large shiny red perfectly shaped fruit is firm, sweet and slightly aromatic. Unlike Sparkle, Earliglow and many other varieties, Jewel keeps its size all season. Extremely popular with commercial growers and Gene's favorite. Good freezing quality. Low incidence of fruit rots and foliar diseases. Not resistant to verticillium or red stele. Z4.

L414A Jewel Strawberry, bundle of 50, $21.00

Sparkle Mid-Late. Fairfax x Aberdeen. NJ Ag Exp Stn, 1942. Although not a favorite with commercial growers because of moderate crop size and smaller berries, we've yet to taste a strawberry that comes even remotely close to Sparkle. They possess a flavor that can only be described as the essence of strawberry. The best in an early year, the best in a late year, the best this year, last year, every year. Soft berries make delicious fresh eating and are also excellent for jams and freezing. One of its few drawbacks is that it tends to lose color in the freezer. First fruit set is large; the rest are small. Resistant to most strains of red stele. Blooms late, rarely affected by spring frost. Z3.

L415A Sparkle Strawberry, bundle of 50, $21.00

Growing Strawberries

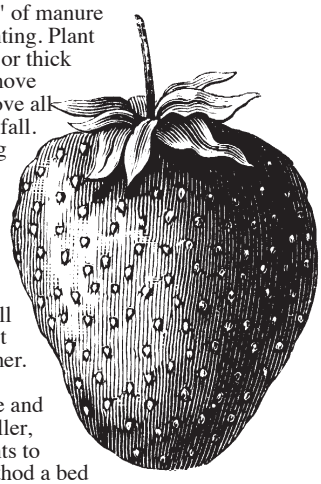
Keep plants cold or refrigerate between arrival and planting. We ship with roots slightly on the dry side. If you cannot plant them for a while, uncover the roots, mist them with water and re-cover, leaving tops exposed. Place bundle in paper bag and store on the bottom shelf of your fridge. Don't be alarmed if the tops become brown or mushy: they will generate new leaves.

Strawberries require good air drainage, well-drained fertile soil with pH of 5.8–6.2, thick mulch and full sun. Avoid soils where tomatoes, peppers or potatoes have grown in the past 4 years. Plant strawberries at the same depth as they were in the nursery, with the middle of the crown at soil level. Keep your patch free of weeds. They require 3/4–1" water per week during April, May, August, September and October. Mulch with hay or straw in late fall to protect plants over winter. In the spring, pull mulch off plants and place between rows where it will keep fruit dry and clean during the summer. It can also be raked back over the plants if frost threatens flower buds. Floating rowcover may also be used for winter and frost protection.

The 1895 Green's Nursery catalog recommends setting out strawberry plants in the evening. "Carrying plants about the fields in the glaring sun in the heat of the day, is a trying ordeal. If planted in the evening, the dews immediately fall upon plants and give opportunity for recuperation before the next morning's sun appears." We think this is good advice for all plants.

Everbearing or **Day-Neutral Strawberries**

These heavy feeders benefit from 3–4" of manure worked 4–6" into the soil prior to planting. Plant 6–12" apart. Mulch with black plastic or thick straw immediately after planting. Remove flowers for the first 6 weeks, and remove all runners the first season. Mulch in late fall. Sidedress with manure monthly during the second season beginning in May. After second year, turn under and start again.



June-Bearing Strawberries

Matted Row system: Set plants 12–24" apart in rows 3' apart. Allow plants to produce runners freely and fill in the row. Remove all flowers the first year. Harvest berries the second summer. Immediately after harvest, fertilize liberally with compost or aged manure and renovate the row. By hand or with a tiller, narrow the row to 12" wide. Thin plants to 4–5" apart within the row. By this method a bed can last about 5 years.

Grapes ***Vitis*** **spp.** Grapes are easy to grow and can bear plentifully even in northern New England. They begin fruiting in the second or third year after planting. They are rugged and cold hardy. Our vines bear consistently every year. Although many people prefer seedless types for table use, seeded varieties can be quite enjoyable right off the vine if you don't mind "grape nuts." Grape seeds contain an antioxidant that is twice as powerful as vitamin C.

Most grape varieties are bred from a combination of different species, *V. labrusca* and *V. vinifera* being the most important. *Labrusca* is native to the eastern U.S., has a wild tart musky (foxy) flavor, and is hardy and disease resistant. Concord is the best-known of the labruscas. *Vinifera*, native to Europe, is extremely high quality, and is the most important wine grape in the world, but is not cold hardy and is prone to disease. *V. riparia*, native to North America, used as rootstock for grafted varieties and in hybridization with *vinifera*, is very adaptable to a wide range of soils, disease resistant and very cold-hardy.

In central Maine, "very early" grapes begin ripening in mid-August, while "midseason" ripen mid-September. Late-season Concord, a standard elsewhere, does not ripen in many northern areas. **Grapes do not require a second cultivar for pollination.** (well-rooted vines)

Beta Midseason. *V. riparia* x Concord. Originated by Louis Suelter in MN, 1881. Beta (pronounced *Bett-uh*, not *Bay-tuh)* was his wife. Old standby heirloom, excellent for juice, jelly and jam. Decent eating off the vine when completely ripe. Most Concord-like of all our northern varieties. Medium-sized black berries in moderately compact to loose clusters. Early to bloom, early to ripen. Vigorous healthy productive vines will cover an arbor in short order. Long even canes are ideal for basket-weaving. Extremely hardy. Z3.

417A Beta Grape, $15.00

Bluebell Mid. MN 158 (Beta x unknown) Developed by JM Dorsey, U Minn, 1944. Our most popular seeded grape; it does everything well. Extremely hardy, to –30˚, labrusca type ripens 2–3 weeks earlier than Concord. While it ripens beautifully from central Maine south, it may not have time to ripen in some northernmost locales. Delicious sweet flavor makes them excellent for fresh eating, jelly and juice. Clusters of medium-sized dark berries with a heavy blue bloom. Strong, productive, vigorous—but not rampant—vine. A joy to grow. Immune to most or all fungal diseases. Z3.

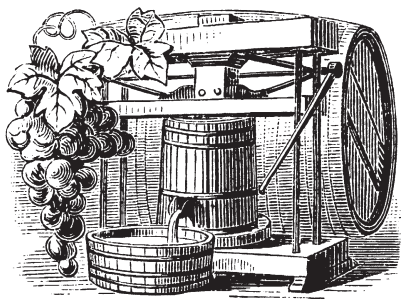
418A Bluebell Grape, $15.00

Frontenac Mid-Late. MN 1047 (*V. r.* RIP 89 x Landot 4511) U Minn, 1996. A highly praised cold-hardy red-wine grape, also excellent for fresh eating. Recommended for dry full-bodied Merlot- or Bordeaux-style table wines, rosés and ports. Very large loose clusters of small berries. Intense juice color, low tannins, high sugar and high acid content. In a newsletter from the Minnesota Grape Growers Association, John Marshall said, "Though the sugar may rise to impressive levels early in September, the grapes are not nearly ripe. Ignore the sugar levels and wait until September 20. The acid will drop and the wonderful black-cherry flavors that will make this grape famous will multiply." Vigorous productive disease-resistant vines. Z4/5.

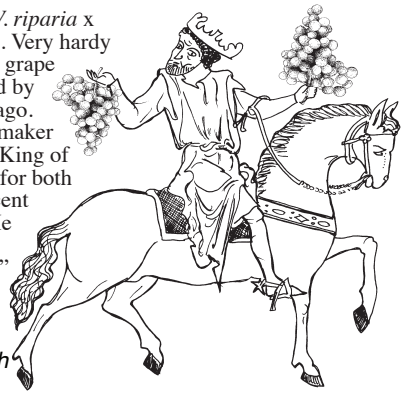
419A Frontenac Grape, $15.00

Itasca Early. MN 1285 (Frontenac Gris x MN 1234) U Minn intro, 2017. Brand new in vineyards and nurseries across the country, the fifth cold-hardy grape to be released from the Minnesota grape breeding program. Golden-yellow berry with low acid, high sugar and high resistance to common grape diseases. Breaks bud early, ready to harvest early. Makes a nice dry Sauvignon Blanc-style wine with what grower Andy Farmer described as "apple melon quince violet" flavors with pear as the top floral note. Vigorous upright vines have survived –38˚. Z4.

420A Itasca Grape, $15.00



King of the North Mid. (*V. riparia* x Concord-type) Madison, WI. Very hardy dark-skinned table and wine grape originally named and offered by Jung's Nursery many years ago. Minnesota grower and winemaker John Marshall recommends King of the North as the one variety for both a good table grape and a decent red "Concord style" wine. He says that it's "very delicious particularly as a home wine." Produces light red sweet tasty juice. Ripens slightly later than Bluebell. Z3.



421A King of the North Grape, $15.00

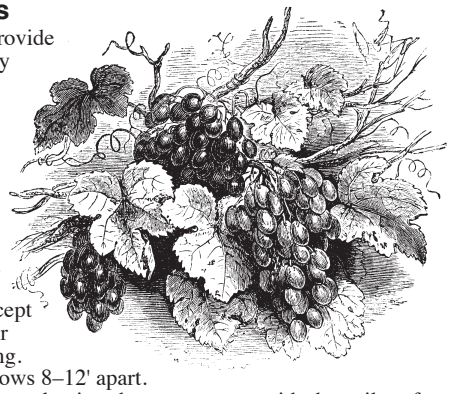
Petite Pearl Late. TP 2-1-24 (MN 1094 x ES 4-7-26) Tom Plocher intro, 2000. Small dark blue thick-skinned berries in small compact clusters make a nice *vinifera*-type dry red wine or rosé. Good to blend with Marquette to create a Cabernet/Syrah/Merlot-style wine. Highly resistant to disease and withstood no damage at –32˚ one cold Minnesota winter. Slow grower with open habit. Thanks, Tom, for permitting Fedco to be one of the few nurseries offering this grape in the U.S. Z4.

423A Petite Pearl Grape, $15.00

Reliance Seedless Very Early. Arkansas 1163 (Ontario x Suffolk Red) AR Stn, 1982. Medium-sized berries are good for fresh eating or juice. Large loose clusters of tender melting sweet pinkish-red fruit with a strawberry-like flavor. Stores well in a root cellar for 1–2 months. Seems hardy although it has shown significant dieback in our Zone 4 trials. You may need to lay vines down for the winter in colder areas (see sidebar). While the literature cautions about Reliance's disease susceptibility, our vines have performed well and remained free of disease. Z4/5.

424A Reliance Seedless Grape, $15.00

Growing Grapes



For the best grapes, provide moderate fertility, very well-drained soil and full sun. Grapes prefer soils with pH of 5.8–7.0. Every June we thoroughly weed the grapes under our arbor, then mulch very liberally with old hay. After that, we don't do a thing to them except harvest in late summer and prune in late spring. Space 8–12' apart in rows 8–12' apart.

Spread the roots out, planting the crown even with the soil surface. Do not prune roots. Pack soil well. Water and mulch well. After frost danger has passed, prune vines back to 3–5 strong buds. Continue to mulch annually with hay or straw. Every few years fertilize liberally with granite dust.

Grapes require annual pruning and a trellis or arbor, though in Italy they still sometimes grow them in maple trees. All systems for growing grapes involve removal of most growth in late spring to encourage new canes, as fruit is produced on these canes. There are many systems for training grapes. Some are suited to laying down and covering tender varieties over winter. Any good book on grape growing will show you several options. We suggest the Hudson River Umbrella or the Four-arm Kniffin system. The University of Maine offers a series of videos demonstrating different grape-training techniques. Go to: umaine.edu/highmoor/ and click on "videos."

People sometimes ask about wire. The current vineyard standard is high-tensile-strength class III galvanized steel wire. The gauge should be 11 to 12.5. The wire is generally sold by weight. 100 lbs of 11 gauge measures about 2600'. 100 lbs of 12.5 measures about 3800'.

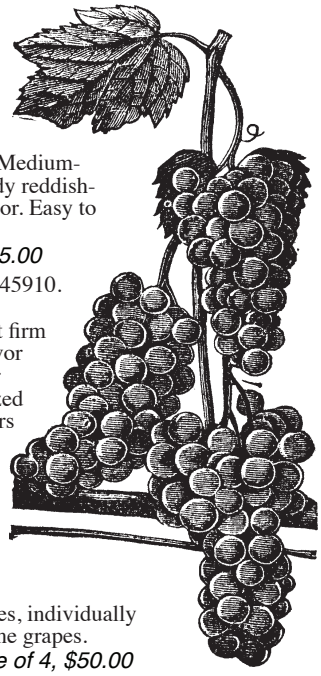
Grapes rated for Zone 5 can be grown in Zones 3 and 4. To prevent winter injury, remove the vine from the trellis in fall, lay it on the ground, and bury with just enough soil to cover. To do this, plant your new grapevine at a 45˚ angle. Train new shoots horizontally for at least one foot. Then, curve shoots upward to form a J shape. This creates a flexible hinge, allowing you to lay the vine down at the end of the season.

Somerset Seedless Early. ES12-7-98 (ES5-3-64 x Petite Jewel) Swenson intro. Somerset is likely one of the hardiest seedless dessert grapes available today. One of the last Swenson introductions before the renowned and beloved grape breeder passed away in December 2004. Medium-sized loose clusters with small sweet ruddy reddish-golden fruit. Crispy texture and great flavor. Easy to grow but not overly vigorous. Z4.

425A Somerset Seedless Grape, 15.00

Vanessa Seedless Mid. Seneca x NY 45910. Introduced by KH Fisher and OA Bradt, Vineland Stn, Ontario, 1983. Large bright firm seedless deep red grapes with a fruity flavor make the absolute best raisins we've ever eaten. Excellent fresh eating. Medium-sized well-filled clusters on vigorous vines. Ours had some dieback at –20° but they all re-sprouted from the base and grew back to where they left off the previous summer. Going strong in our central Maine vineyards. Z4/5.

426A Vanessa Seedless Grape, $15.00

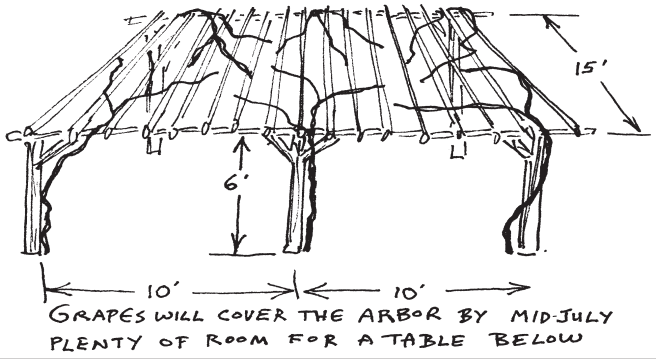


Grape Collection Our pick of 4 varieties, individually labeled, a combo of hardy dessert and wine grapes.

429A Grape Collection, bundle of 4, $50.00

Training Grapes on an Arbor

Train one or more vines onto an arbor or gazebo; we have 8 vines, spaced about 10' apart. Prune each vine back to a single trunk. Encourage several permanent arms from each trunk. In late spring remove 70-90% of the past summer's growth. Next summer new fruiting canes will grow off the permanent arms.



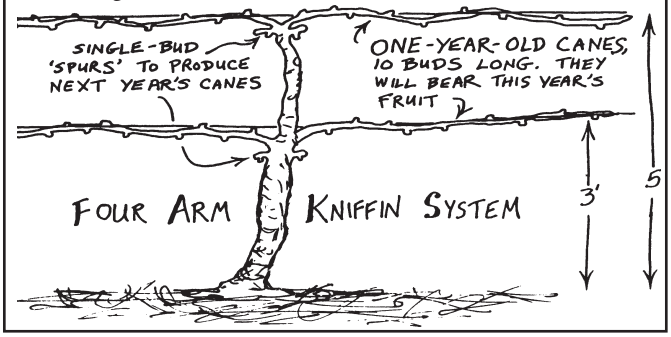
Pruning Grapes in the Four-Arm Kniffin System

First year: After the danger of frost has passed, cut newly planted vines back to a single stem, 6" long with two to three buds.

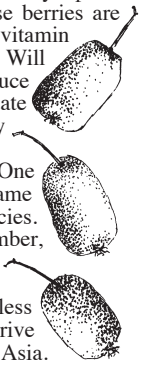
Second year: Set up two wires, 3' and 5' high, stretched between posts. Cut plant back to a single stem, 6 feet long and tie it to the top wire. Leave 4–6 buds near each wire and remove others.

Third year: Select 8 canes, 4 for each wire, and remove the rest. Tie two canes to each wire, one in each direction. Cut these 4 canes back to 10 buds each. Cut the remaining 4 canes back to 1–2 buds each.

Later years: In late spring, remove last year's fruiting canes. Select eight new canes. Cut 4 of them to 10 buds each, and tie them to your wires. Cut the remaining 4 back to 2 buds each. These will produce next year's fruiting canes. Remove all other canes. The number of buds left on the fruiting canes may be adjusted to encourage more fruit (leave more buds) or larger size (leave fewer buds).


SINGLE-BUD 'SPURS' TO PRODUCE NEXT YEAR'S CANES
ONE-YEAR-OLD CANES, 10 BUDS LONG. THEY WILL BEAR THIS YEAR'S FRUIT
FOUR ARM KNIFFIN SYSTEM
3'
5'

Hardy Kiwis *Actinidia* spp. Productive twining vine climbs 20' or more and produces juicy bite-sized fruits in late summer. Though much smaller than the fuzzy supermarket kiwi, hardy kiwis are by no means lacking in flavor. Skin is smooth and edible. The longer they ripen on the vine, the sweeter they become. These nutrient-dense berries are considered a superfood, loaded with vitamins, with more vitamin C than oranges! Easy to grow in rich well-drained soils. Will begin producing in 5–9 years. Mature plants may produce up to 100 lbs of fruit. Once vines are established, adequate pruning (see directions in sidebar) will significantly increase yields. No significant pest or disease problems.



Both male and female plants required for fruit. One male will usually pollinate at least three females of the same species. The females bear the fruit. We offer two species. *Arguta*, known as **Kiwi Berry**, ripens around mid-September, has larger fruit and is more vigorous than *kolomikta*. (Argutas can just about pull down a tree.) *Kolomikta* ripens around mid-August, has smaller fruit and is less vigorous but more cold hardy than *arguta* and should thrive even in the northernmost districts. Native to eastern Asia. (well-rooted transplants)

***A. arguta* 'Anna' Female.** Also called **Ananasnaya**. Thought to be a hardy cross between *arguta* and *kolomikta*. The Russian name describes its taste: 'pineapple-like.' Tangy and sweet, almost entirely covered with a rusty red blush. Heavy yields are late to ripen, very end of September or early October. Requires Meader male for pollination. Z4.

430A Anna Female Kiwi, $14.50

***A. a.* Geneva #3 Female.** NY Ag Exp Sta, Geneva, NY. Very productive and reliably hardy. Medium-sized bright green fruits have excellent flavor. This was one of our favorites at UNH's Kiwiberry Fall Field Day last year. We offered it years ago and are excited to bring it back. Z4.

431A Geneva #3 Female Kiwi, $14.50

***A. a.* 'Meader' Fruitless male** kiwi suitable for pollinating *arguta* females Anna and Geneva 3. Will not pollinate *kolomiktas*. Extremely vigorous vines are often grown just for their beautiful dark green ornamental foliage accentuated by reddish-pink petioles (leaf stalks). Z4.

432A Meader Male Kiwi, $14.50

***A. kolomikta* 'Red Beauty' Female.** Fruit is sweet, skinny and small, the size of a grape. More precocious than *argutas*. Fruit falls from the vine when ripe. Medium-dark green foliage becomes showy red in autumn. Requires Arctic Beauty for pollination. Z3/4.

433A Red Beauty Female Kiwi, $14.50

***A. k.* 'Arctic Beauty' Fruitless male** pollinator for Red Beauty. Will not pollinate *argutas*. Often grown by itself as an ornamental for its beautiful foliage. Young leaves emerge purple, then become variegated pink, white and green, looking as though they've been dipped in paint. Heat, excessive fertilization or shade may reduce the leaf color. Z3/4.

434A Arctic Beauty Male Kiwi, $14.50

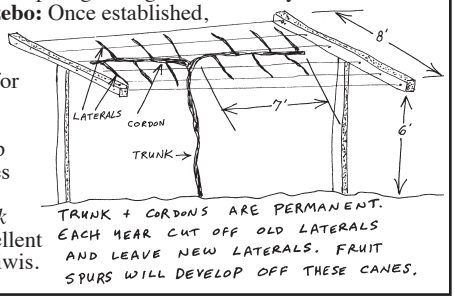
Growing Kiwis

Kiwis are dioecious vines, meaning male and female flowers are on separate plants, so you need a male plant to pollinate the fruiting female plants. They are extremely vigorous and require a rugged trellis or arbor and heavy pruning. Plant vines 15' apart each way in moist but well-drained soil. Kiwis are adaptable and tolerate a wide range of soil types (pH 5.0–6.5). One male will pollinate several females as long as they are within approximately 30' of the male. Although the vines are quite hardy, the flowers and foliage are frost sensitive. Planting on a northern exposure will delay budding in spring and reduce risk of frost damage. Protection from winter winds and intense winter sun is also recommended. Mulch with hay or wood chips. On poor soil fertilize with compost annually.

On a trellis: Train a single trunk to the trellis wires and then train two permanent 7–10' cordons (arms) off the trunk. Each winter remove at least 70% of old growth, leaving a dozen or so one-year-old laterals. Fruit will develop on fruit spurs growing off these one-year-old canes.

On an arbor or gazebo: Once established, prune 70% of the old growth each year and leave some new canes for this year's fruiting.

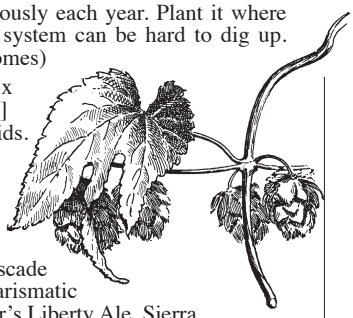
Summer pruning may be required to keep extremely rampant vines from choking out your farm. *The Pruning Book* by Lee Reich is an excellent reference for pruning kiwis.


8'
7'
6'
LATERALS
CORDON
TRUNK
TRUNK + CORDONS ARE PERMANENT. EACH YEAR CUT OFF OLD LATERALS AND LEAVE NEW LATERALS. FRUIT SPURS WILL DEVELOP OFF THESE CANES.

Hardy Vines & Creepers

Hops ***Humulus lupulus*** Late summer. Up to 20-30' Beautiful twining vine covers a trellis, archway or the entire side of a barn. Our favorite live awning to shade out the summer sun. Green lobed leaves, bristly stems, and insignificant greenish flowers, followed by the hops: papery aromatic cone-like strobiles used medicinally and in brewing for more than 1000 years. John Christopher recommends the strobile tea as "a powerful, stimulating and relaxing nerve tonic." For brewing, there are basically two types of hops. Aroma hops have a lower percentage of alpha acids and are used for flavoring, finishing or conditioning brews. Bitter hops have more alpha acids and are used to impart bitterness.

Tolerates shade, adapted to most well-drained soils. Dies back to the ground in fall and rebounds more vigorously each year. Plant it where you want it because the extensive root system can be hard to dig up. Native to Eurasia. Z3. (5-6" female rhizomes)



H. l. **'Cascade'** USDA 19124 [(Fuggle x Serebrianka-Fuggle S) x open-pollinated] OR St U, 1972. Contains 4–7% alpha acids. Fragrantly aromatic hop, low bittering value. For years Cascade has been the most widely used hop in the beer industry. Very productive with large cones, ready to harvest mid-late August in central Maine. A customer wrote, "Cascade has gained impeccable renown as the charismatic hop in such unsurpassable ales as Anchor's Liberty Ale, Sierra Nevada's Pale Ale and McNeill's Firehouse Amber Ale. Nothing 'light' about these." Resistant to downy mildew.

L438A Cascade Hops, bundle of 3, $17.50

H. l. **'Centennial'** (Brewers Gold x USDA male) Zimmerman, Kenny intro, 1990. Floral citrus aroma gives a nice balance to this dual-purpose hop. High yielding with 8–11% alpha acid content. A common favorite among American craft brewers for IPAs, ales and porters. Sometimes referred to as "Super Cascade" due to similarity in flavor to Cascade but with higher bittering content. Moderately resistant to powdery mildew.

L439A Centennial Hops, bundle of 3, $17.50

H. l. **Mt. Hood** (Hallertau Mittelfrüh x USDA 19058M male) OR St U, 1989. Low-to-moderate bitterness with 4-7% alpha acid content. Spicy and floral aromas are great for a variety of brews including lager, pilsner, wheat beer and especially German- or Belgian-style ales. Mt. Hood resulted from efforts to create an American hop that captured some of the old school terroir of early European "noble" hops, of which there are only four, including Hallertau, Mt. Hood's parent.

L440A Mt. Hood Hops, bundle of 3, $17.50

Growing Hops

Refrigerate slightly moistened rhizomes in a plastic bag until planting. Hops prefer full sun and rich light well-drained soil with a pH of 6.5–8.0. As soon as soil can be worked in spring, till to create a weed-free area. Dig holes about 1' deep and at least 3' apart in rows. Add manure, compost and other slow-release organic fertilizers. Plant 2 rhizomes per hole, horizontally with the buds pointed up and cover with 1–2" of loose soil. The first year the hop plant requires frequent light watering and mulching.

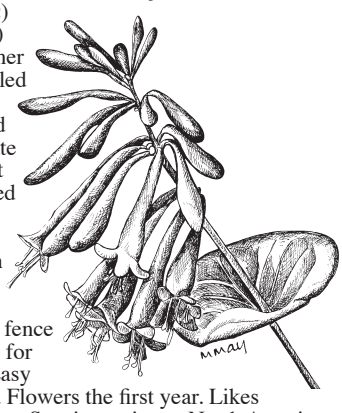
Hops grow vertically, with lateral sidearms extending from the main vine and producing cones. Vines may grow up to 25' in a single season, and do best if they are trained onto strong twine 12–30' high, supported by a trellis, wire, pole, tree branch or south-facing building.

When the young vines are about 1' long, select the 2 or 3 most vigorous vines per hill and remove the rest. Gently wrap the vines clockwise onto a string. Once trained, the vine will guide itself.

Pick the hops when they are papery but still slightly sticky and filled with yellow powder. Harvest dates will vary with the variety and climate. Because most hops are produced out of reach from the ground, it is safest to lower the vines in order to pick the hops. Dry hops thoroughly before use. Spread on screens in a dry attic, they will dry in a few weeks. Dried hops freeze well.

Cut the vines back to the ground after they have been killed by frost. Each spring apply a hearty topdressing of manure and compost. To help control vigor, prune roots by cutting a 2–3' circle with a shovel around the base of the plant in spring.

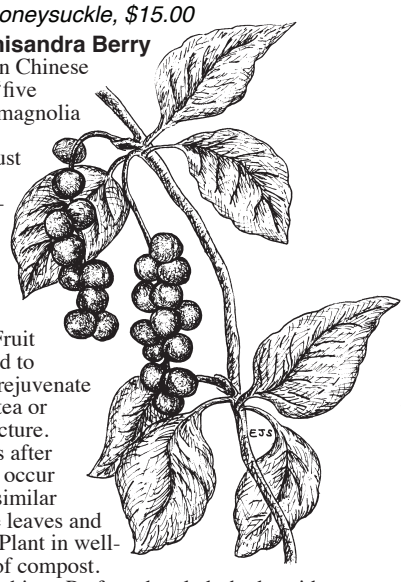
Lonicera **x** ***brownii*** **'Dropmore Scarlet' Honeysuckle**



10-20' (*L. sempervirens* x *L. hirsuta*) Tall climbing native (non-invasive!) honeysuckle developed by FL Skinner in Manitoba. Jazzy whimsical whorled clusters of 1½" scarlet-orange tubular flowers bloom profusely and tirelessly from early summer into late fall. Attracts butterflies and bees but especially loved by our ruby-throated hummingbird. Striking blue-green foliage is perfoliate, appearing as if the red stems were growing through a single cupped disk. Finely shredded peeling bark makes an interesting winter display. Great for fence or arbor or cut back like a perennial for a low rangy mound in the garden. Easy to grow, generally free of problems. Flowers the first year. Likes average well-drained soil and full sun. Species native to North America. Z3. (well-rooted transplants)

442A Dropmore Scarlet Honeysuckle, $15.00

Schisandra chinensis **Schisandra Berry**



20' or taller. Called *wu wei zi* in Chinese medicine, which translates as 'five flavor fruit.' A member of the magnolia family, ornamental vines twist and wrap themselves around just about anything nearby. Small subtle male and female orchid-like flowers appear in early spring. Bright red clusters of medicinal berries composed of sweet, sour, salty, bitter and pungent flavors, droop from the vines in September. Fruit is considered adaptogenic, used to build the immune system and rejuvenate against stress. Dry berries for tea or make them into a delicious tincture. Generally bears fruit 4–5 years after planting. Optimal fruiting will occur on vines trained horizontally, similar to grapes. Vines have alternate leaves and resemble those of hardy kiwi. Plant in well-drained fertile loam with lots of compost. Needs strong support for climbing. Prefers dappled shade with some morning sun. Sensitive to transplanting and sometimes loses leaves before budding out again or sprouting from roots later in summer. Sunburn or faded leaves is typical in the first year. While recent research shows the vine is monoecious, rather than dioecious as previously thought, we still recommend planting multiples for best pollination. Native to China. Z4. **ME Grown.** (well-rooted transplants)

443A Schisandra Berry, $22.50

Wisteria macrostachya **'Aunt Dee' Wisteria**

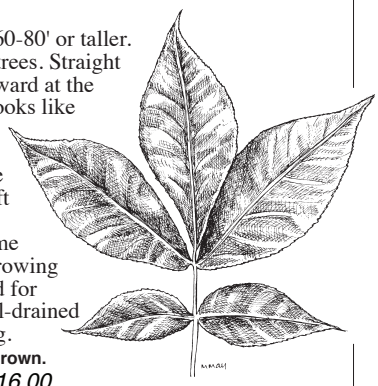
Up to 50' (Species sometimes called **Kentucky Wisteria**.) Magnificent twining vine with pinnate leaves, for pillars, trellises, arbors, walls, even trees. Long 12" racemes of lightly fragrant lilac-purple flowers with a lime-yellow accent at the center base of each petal, late spring or early summer. The racemes—each contain about 90 small flowers—dangle from the vine like grape clusters. We've seen old twisting woody vines trained to look like sculptures—porch art for winter gazing. Bean-like smooth green seed pods to 4" long. It can be tricky to get them to bloom in northern districts. We recommend light sandy soils, plenty of water and full sun. Prune one third of the growth each winter to encourage blooms. Vines can be quite powerful, so provide a very sturdy structure. Native of southeastern U.S. May need protection in Zone 4. (well-rooted transplants)

444A Aunt Dee Wisteria, $18.00

"Getting my box of Fedco trees in the spring makes me forget about all of the frozen dog poop in my yard."
–Tim Kirkman, Fox and Fawn Farm, New Germany, MN

Nuts

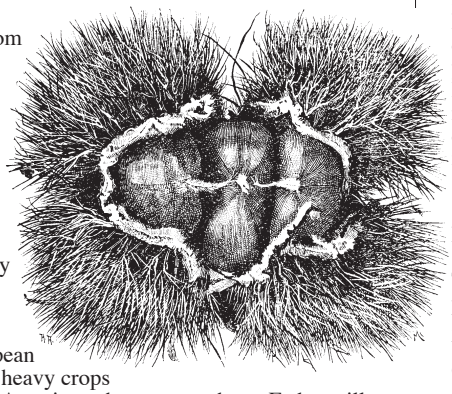
The nut seedlings we're offering are grown from nuts harvested from the most productive specimens. Like all seedlings, each one is a little different, and nut quality may vary.



***Carya ovata* Shagbark Hickory** 60-80' or taller. One of our most beautiful native nut trees. Straight trunked with branches that curve skyward at the tips. Not only does the bark shag, it looks like huge long strips are about to fall off. After the tree reaches bearing age, about 40 years, it will shower the yard with sweet edible nuts. Those left unharvested will likely be planted by local creatures, some four legged, some two. Rich yellow fall foliage. Slow growing but very long-lived. Tough wood used for making tool handles. Prefers rich well-drained loam but is adaptable. Self-pollinating. Native to eastern U.S. Z4. (1-3') **ME Grown.**

447A Shagbark Hickory, $16.00

***Castanea dentata* American Chestnut** Up to 100' Before 1900 American chestnut was one of the most important deciduous trees in the eastern U.S. The arrow-straight rot-resistant wood was used for everything from mine timbers to musical instruments. Delicious sweet nuts were an important food for wildlife and humans. Chestnut blight, an Asian fungus, showed up in Brooklyn in 1904; within 50 years it killed virtually every chestnut tree in the eastern U.S. The blight does not kill the roots however, and rare stands of mature trees can still be found. In July 2015, the tallest American chestnut in North America was discovered right here in Maine by researchers who spotted the profuse white blossoms from the air.



The trees we offer are not immune but were harvested from healthy trees showing no signs of infection. Some of these seedlings may prove resistant. Fast growing and straight trunked with a wide-branching magnificent rounded crown. Fragrant white blooms in July. Ribbed sharp-toothed lustrous dark green foliage. Yellow fall color. Prefers loamy well-drained acidic soil and full sun. Two or more needed for pollination but will cross-pollinate with Asian and European chestnuts. Precocious, bearing heavy crops of nuts in 10 years. From each American chestnut purchase, Fedco will donate $3 to support the American Chestnut Foundation Maine Chapter. Z4. ME Grown. (1-3') **ME Grown.**

448A American Chestnut, $22.50

***Corylus americana* American Hazelnut** 12-18' x 10-15' Also called **American Filbert**. Squirrels, bluejays and humans alike relish the sweet tasty 1/2" nuts of this multi-stemmed rounded native shrub. Usually bears 3–5 years after planting. Collect the crop as soon as the husks begin to brown and lose their sticky yellowness. In central Maine that's around the third week of September. Showy catkins in spring. Dark green serrated foliage in summer. A patchwork of reds, yellows, oranges and greens in autumn. Suckers from the roots. Excellent for naturalizing in thickets. The main pest is nut weevil, which leaves a "hit" mark on the nut shell. (Raking drops and spraying Surround may help with this.) Prefers well-drained soils; pH adaptable. Full sun or light shade. May be self-fruitful but for best nut sets, plant more than one, 4–6' apart. Native to U.S. Z4. **ME Grown.** (1-3')

449A American Hazelnut, $16.00

449B American Hazelnut, bundle of 5, $68.00

***Juglans nigra* Black Walnut** 70-90' A spectacular shade tree with a magnificent open rounded crown of massive limbs with dark green leaves. Harder to crack than commercial English walnuts but worth the effort for their distinct sweet earthy rich flavor. Eat them chopped on fresh salads, or with dark chocolate for dessert. Highly valued cabinet and veneer wood. Husks, leaves and roots common in herbal medicine for anti-fungal properties. Husks also yield a rich brown dye. Deep taproot. Prefers moist well-drained soils, pH 6–7. Roots give off a compound called juglone that inhibits some plants, so don't plant one too close to your garden. Space trees about 50' apart for nut production, 20' apart for lumber. May begin to bear fruit in 5–10 years. Some say multiple trees needed for pollination but we've seen enough solo trees with large nut crops to say you only need one. Native to eastern U.S. though not quite into Maine. Z4. **ME Grown.** (1-3')

451A Black Walnut, $17.00

***J. regia* 'Carpathian' Walnut** 30-50' x 40' Species sometimes called **English Walnut** or **Persian Walnut**. Very large open somewhat vase-shaped fast-growing tree with those edible nuts you buy in the store. Traditionally used in Europe for salad oil. Has the same alternate pinnately compound foliage as black walnut but glossy blue-green leaves are larger and more rounded, almost tropical looking, and shells are a bit easier to crack. Prefers light deep dry loamy soil. Bears in 5–7 years. Considered self-fertile but plant two for more abundant crops. In the 1930s, this cultivar was brought to North America from the Carpathian Mountains in Poland where it was reputed to bear heavy crops even after –40° winters. Native from southeastern Europe east to China. Z4 or maybe Z3. **ME Grown.** (1-3')

452A Carpathian Walnut, $17.00

Coppicing and pollarding

"All gardeners know how distressing and harassing it is to find themselves without the right sort of sticks or stakes in summer, and what a long job it then is to have to look them up and cut them, of indifferent quality... By the plan of preparing all in winter no precious time is lost, and a tidy withe-bound bundle of the right sort is always at hand."

–Gertrude Jekyll, *Wood and Garden* (1899)

Coppicing is a traditional practice of cutting trees or shrubs down to the ground to stimulate new growth. Many deciduous tree species—beech, alder, ash, hazel, willow, maple and more—respond to injury by using energy stored in their roots to sprout multiple new stems from the stump, called a "stool." Pollarding is a similar practice, in which trees are topped, often around 8–10' up, to produce shoots beyond the reach of grazing animals. With coppicing and pollarding, trees produce convenient easy-to-cut small-diameter wood from the same roots indefinitely.

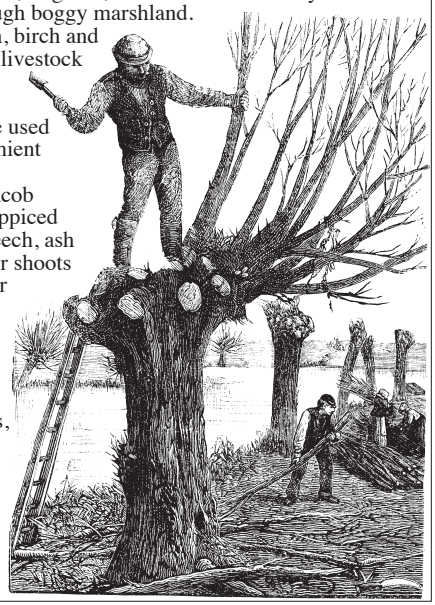
For millennia farmers and rural people have managed woodlands, or "copses," in this way. When the shoots are of usable size, they are trimmed back to the stool, and the cycle begins anew. In winter, copses are harvested in sections, on a rotation anywhere from 3–8 years. Each year a crop of wood is ready to be cut.

The uses for coppiced wood are endless, and for ages people have relied on these perpetual sprouts for everything from posts and poles, to building materials, to animal feed. Hazel, willow and oak can be used to make baskets, wattle-and-daub fences and walls, or even bridges, like the Sweet Track in Somerset, England, the Neolithic walkway that spanned more than a mile through boggy marshland.

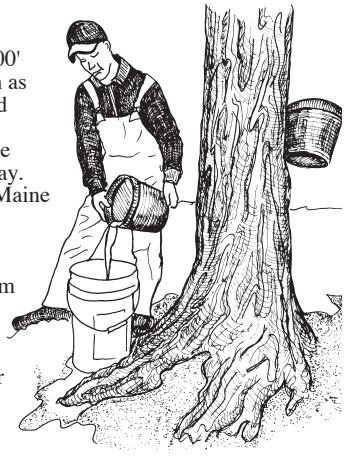
Farmers cut shoots from ash, birch and other species as tree fodder for livestock like sheep and goats, and coppiced wood can be dried as winter "tree hay." It can also be used to make charcoal or as a convenient stove wood for cooking.

The forest around grower Jacob Mentlik's farm is filled with coppiced wood sprouting from maple, beech, ash and birch. These small-diameter shoots are perfect to chip for mulch for nursery beds and orchard trees. Because of the high ratio of cambium to cellulose in these small branches, the resulting ramial wood chips contain abundant minerals, amino acids, proteins and enzymes, which promote growth of fungi and airy, spongy, fertile soil.

For more, read William Bryant Logan's excellent new book *Sprout Lands: Tending the Endless Gift of Trees*.



Shade Trees



***Acer saccharum* Sugar Maple** 50-100' Largest of our native maples, also known as **Rock Maple**, valued for shade, syrup and lumber. A New England tradition was to plant a pair of sugar maples in front of the farmhouse on the inhabitants' wedding day. Those "wedding trees" still grace many Maine front yards. Famous for its yellow, gold, scarlet and crimson fall foliage and its fresh sap that's boiled down to make real maple syrup. Huge upright spreading form with light grey bark. Shade tolerant, making it easy to interplant in existing woods. Prefers moist well-drained soils. Cold hardy. Sensitive to salt and air pollution; not a good city tree. Native Quebec to Gulf Coast. Z3. (2-4')

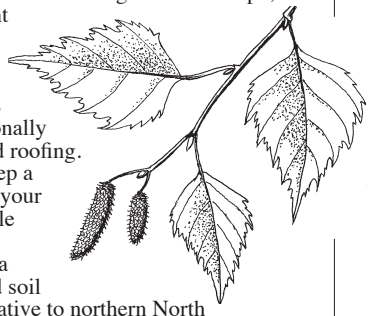
457A Sugar Maple, $17.00

***Betula alleghaniensis* Yellow Birch** 60-75' x 40-50' Also called *B. lutea*. The deep golden-yellow exfoliating bark glows and dazzles with a satiny sheen. Yellow birch can grow to be a grand old tree that bursts through the forest canopy, though they're often modest understory trees snuggling themselves into shady niches. Valuable timber for veneer, furniture and flooring. The 700-year-old canoe found in Maine this year was made from a single birch log. The twigs make a wonderful tasty pink-colored tea. Rusty yellow fall foliage. Wide-branching rounded form in the open; irregular in the woods. Shade-tolerant. Adaptable but prefers moist rich well-drained acid soil. The Maine state champ (once the national champ) lives in Deer Isle: 16.6' circumference and 48' tall with a 91' crown spread. Native to eastern North America. Z3. **ME Grown.** (2-4')

458A Yellow Birch, $16.75

458B Yellow Birch, bundle of 5, $72.00

***B. papyrifera* Paper Birch** 30-70' x 30' Also called **Canoe Birch** or **White Birch**. The classic birch tree. Elegant as a single- or multi-stemmed specimen. Medium-sized tree with an irregular oval shape, upright angled branches and magnificent chalk-white peeling bark. Deep green foliage produces light shade in summer and turns clear yellow in fall. Birds prize the catkins, buds and seeds. Twigs are a favorite deer browse. Bark traditionally used for building canoes, containers and roofing. When traveling in the north country, keep a small bundle of finely shredded bark in your pocket to kindle the nightly fire. Valuable wood at the sawmill. Twiggy branches, stuck into the ground, are perfect for pea fencing. Prefers moist well-drained acid soil though we've seen it thrive on ledge. Native to northern North America. Z3. **ME Grown.** (2-4')



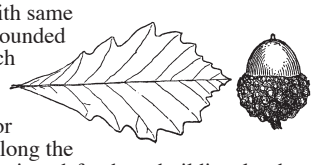
460A Paper Birch, $16.75

460B Paper Birch, bundle of 5, $72.00

In summer-time one never really knows how beautiful are the forms of the deciduous trees. It is only in winter, when they are bare of leaves, that one can fully enjoy their splendid structure and design, their admirable qualities of duly apportioned strength and grace of poise, and the way the spread of the many-branched head has its equivalent in the wide-reaching ground-grasp of the root.

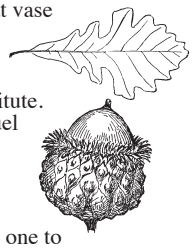
–Gertrude Jekyll, from *Wood and Garden* (1899)

***Quercus alba* White Oak** 50-80' with same spread. Spectacular broad irregularly rounded oak with low-lying branches that stretch out horizontally from the trunk, sometimes as far as 50'. Bark is finely grooved and etched. Wood is valued for lumber and firewood. Once common along the Maine coast, it was almost entirely stripped for boat-building lumber more than a century ago. Some extremely fine specimens in Maine grow on Swan Island in the Kennebec River. Soil adaptable, though prefers deep moist well-drained acid conditions, full sun. Thrives where fallen leaves can be left around the base; avoid soil compaction, even foot traffic. Disease and insect resistant, drought tolerant. Slow growing and extremely long-lived. Native to eastern U.S. Z3. **ME Grown.** (2-4')



464A White Oak, $17.00

***Q. macrocarpa* Bur Oak** 70-80' x same. Hardiest of the white oaks with a deeply grooved massive trunk and a wide-spreading crown of huge branches. Small branches are distinctively corky, winged and tend to twist and kink. The habit is upright and somewhat vase shaped. Lustrous dark green foliage and large 1–2" acorns, each almost entirely enclosed in a fringed cup. These are edible and low in tannic acid; when roasted they supposedly make a decent coffee substitute. (For instructions on acorn processing, refer to Samuel Thayer's *Nature's Garden*.) The strongly astringent inner bark, foliage and acorn caps are all medicinal. The most urban-tolerant oak. Fairly fast growing. Needs full sun but adaptable to a wide range of soil types including clay. Monoecious, so you need only one to get fruit. Native to eastern U.S. and Canada. Z3. (2-4')



466A Bur Oak, $17.00

***Q. rubra* Red Oak** 60-75' x 45' Also called **Northern Red Oak**. The most common oak in northern New England and a common tree in central Maine. Typically a single large trunk dividing into several large ascending spreading branches. While the branches are not as massive as some of the other oaks, its open rounded crown is magnificent. The trunk is a deep grey textured web of surfaces overlaid one upon another. Sharply toothed foliage turns orange-tan during apple season. Fast growing, up to 2' per year. Prefers well-drained sandy slightly acid soils. Those on our farm thrive in the shallow ledgy ground. Tolerates shade, compacted soil, salt, pollution and other urban conditions. Native to eastern U.S. Z4. **ME Grown.** (2-4')

467A Red Oak, $17.00

***Salix alba* 'Tristis' Niobe Weeping Willow** 50x50' The classic weeping willow, a very large majestic graceful wide-spreading tree. Golden drooping branches, which can hang to the ground, are used for basket weaving; golden bark and leaves used medicinally. Harvest twiggy branches in early spring to make a tincture. Buzzes with life when May flowers attract loads of pollinating bees. Native to southern Europe and western Asia. Z4. (2-4') (More willows on page 48.)

468A Tristis Niobe Weeping Willow, $15.00

***Tilia americana* American Linden** 60-80' x same. Also known as **Basswood**, **Butterwood** and **Lime**. Tall stately long-lived tree with rounded crown and numerous low-hung spreading branches. Sweetly fragrant yellow June flowers will attract all the bees in the neighborhood, make the best honey, and also make a popular after-dinner tea and stomach remedy. Sprinkle them on your salad for a festive treat. The young half-size foliage makes a high-quality salad green. Excellent carving wood. Fibrous inner bark used for making cordage. Yellow fall color. Prefers deep rich moist soils. Full sun or partial shade. Sensitive to salt and pollution. Native from New Brunswick to Virginia. Z3. (2-4')

469A American Linden, $16.00

***Ulmus americana* 'Valley Forge' American Elm** 60-70' x 50-60' US Nat'l Arboretum intro, 1995. Selected in Delaware, OH, and released after 20 years of testing. Going strong in our Maine plantings. Large fast-growing graceful native once lined virtually every street in New England but declined dramatically due to Dutch elm disease. Fortunately, several disease-resistant cultivars have been introduced. At maturity the trunk can be 4' (even up to 8'!) in diameter with an immense vase-shaped canopy. Long loose branches blow and sway in a hazy breeze on hot summer days. One of the most wonderful shade trees for northern climates. We're infatuated with them. If you find yourself in Castine, ME, visit the huge old elms lining every street; you'll feel like you stepped back in time. Castine has a tree warden just for the elms, a kind of curator in a living museum! Soil adaptable, prefers moist areas along rivers and streams but also grows well in drier places. Salt and drought tolerant. Plant more elms! Z4. **ME Grown.** (2-4')

470A Valley Forge American Elm, $22.50

Conifers

Abies balsamea **Balsam Fir** 45-75' One of the most abundant of our native conifers. Small "blisters" contain a transparent aromatic resin that has been traditionally used as an inhalant for headaches and congestion, and as a salve for cuts and arthritis. Needle tea is rich in vitamin C. The fragrant boughs are a favorite for wreaths; the needles used in scented pillows and potpourri. The best of all conifers for a Christmas tree! Narrow, conical, smooth-barked. Twigs, inner bark, needles and sap are all medicinal. Prefers well-drained moist acid soil. Avoid polluted areas. Semi-shade tolerant, slow growing. Good hedge or specimen tree, songbird nesting area or rabbit thicket. Native from Labrador to upper eastern U.S. Z3. (9-18")

475A Balsam Fir, bundle of 5, $19.00

Metasequoia glyptostroboides **Dawn Redwood** 100' One of the most spectacular of the ornamental trees. The wide irregular trunk looks like something out of a fairy tale with its iridescent golden-orange bark that becomes deeply grooved, hollowed and fluted with age. The bright green deciduous needles turn orange in the fall. Grows quickly, up to 50' in 15–20 years, with many small-diameter horizontal branches and a uniform conical habit. Give it lots of space! Highly adaptable, easy to transplant. Prefers moist deep well-drained slightly acid soil and full sun. Will tolerate wet or dry sites. Pollution resistant. Good specimen or street tree; rarely needs pruning. Fossils dating back 50 million years have been found in Japan. Considered extinct until it was "rediscovered" in central China in 1941. Resembles California redwood only vaguely. Native to China and Japan. Z4. **ME Grown.** (1-3')

476A Dawn Redwood, $16.00

Picea abies **Norway Spruce** 80' Fast-growing wide-spreading upright picturesque tree with graceful long pendulous branches that often reach the ground. Largest of the spruces. If you go to the Mt. Auburn Cemetery in Cambridge, MA, don't miss the ancient Norway spruce just inside the front gate. Several of its massive drooping branches have rooted and turned into secondary trunks. It is truly amazing. Orange-brown scaly bark. Excellent lumber. Showy 4–6" cones. Bright green foliage. Plant in full sun to part shade. Prefers loam but tolerates poorer soils better than other spruces. Native to northern Europe. Z2. (9-18")

477A Norway Spruce, bundle of 5, $19.00

P. glauca **White Spruce** 60-90' x 10-20' Conifer native to boreal forests, subalpine regions and Acadian forests of North America ranging from Alaska to Newfoundland. Northernmost trees nearly reach the arctic and will withstand winter lows of –70°. Diameter of trunk reaches up to 2'. One of the best trees for wind blocks and privacy screens. Wood commonly used for lumber, pulp and paddles. Harvest bright green spruce tips in late May to early June and process into citrusy sugar, syrup, vinegar or cordials. High in vitamin C. Adaptable and tolerant to wind, drought and cold. Full sun. Z2-6. **ME Grown.** (9-18")

478A White Spruce, bundle of 5, $19.00

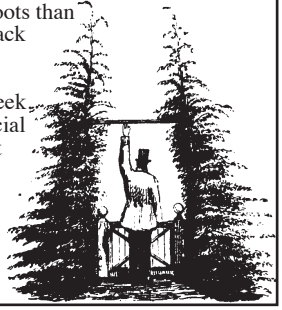
P. pungens var. ***glauca*** **'Misty Blue' Colorado Blue Spruce** 30-60' Very popular specimen tree with truer blue foliage than other varieties. Excellent for privacy screens, as it is fast growing after 3'. One of the most beautiful stands of blue spruce is on Rt. 139 in Benton, just before you cross the Sebasticook River. Plant in full sun to part shade. Does not like wet soil. Extra spring nitrogen will improve blue color, which doesn't appear for first few years. Native to western U.S. Z2. (9-18")

479A Misty Blue Colorado Blue Spruce, bundle of 5, $19.00

Growing Conifers

Conifers tolerate a wide range of soil conditions, but prefer a pH between 5.5–6.5. If you are planting in dry or well-drained areas, dip tree roots in a solution of Agri-gel before planting to protect roots from drying out. Do not use Agri-gel in heavy clay soils or wet areas. Do not soak conifers in the Agri-gel solution; a good dipping is sufficient.

Before planting, prune off a third of the roots. Dig a small hole or make an incision with a spade or planting bar and slip the tree in to the level it grew in the nursery, never below. Fan the roots out; do not wind them around in the hole. It is better to prune the roots than to crowd them in the hole. Water well and pack the earth down with your feet to remove air pockets.



Young conifers need 3/4–1" of rain per week. Periodic deep waterings are far more beneficial than frequent sprinklings. Fertilization is not necessary in the first year. In later years you may fertilize around the drip line.

To make evergreens dense and compact, remove central leader and center bud on the end of each side branch.

Pinus strobus **Eastern White Pine** 100' or more. The largest northeastern conifer. Magnificent and massive when mature. Smooth greyish-green bark becomes thick, rough and deeply furrowed with age. A cup of pine needle tea has more vitamin C than a cup of orange juice; Native Americans showed early white explorers how to brew it and stave off scurvy. The resin has numerous practical and medicinal applications. Excellent wood with a thousand uses. When grown in abandoned fields, "wolf pines" develop huge curving branches. Grown in the forest it will typically be "clear" for the first 30–80'. Planted thickly and sheared, it makes a beautiful hedge that won't drop its lower branches. Likes ordinary to poor—even sandy—soil. Shade tolerant, but does not like salt or roadsides. Fast growing. Native to eastern U.S. Z3. **ME Grown.** (9-18")

480A Eastern White Pine, bundle of 5, $19.00

Thuja occidentalis **Eastern White Cedar** 20-60' Also called **Arborvitae**, which means 'tree of life.' Common throughout the entire state of Maine although some stands have been depleted by overcutting. Narrow and tall with twiggy branches, soft fibrous orange-brown bark, and flat foliage unlike that of any other conifer. Foliage and bark tea is high in vitamin C and helps fight infections. Twig decoction makes an antiviral antifungal skin wash. Valuable light fragrant wood, the standard for fence posts and log cabins in Maine. Slow growing, lives up to 400 years. Good for screens and hedges. A favorite browse of deer. Pruning limbs and leaving them on the ground during a harsh winter helps sustain these animals and is a long-practiced tradition in the forests of Maine. Thrives in rich moist marshy neutral-to-alkaline soils. Plant in full sun to part shade. Z2. (9-18")

481A Eastern White Cedar, bundle of 5, $19.00

Agri-gel A hydrogel formulation that absorbs and holds water. The swollen crystals adhere to plant roots, reducing transplant shock. Safe, nontoxic, easy to use. Useful for garden seedlings as well as woody plants. Highly recommended for raspberries and conifers. Half-ounce packet mixed with 1 to 3 gallons of water will treat up to 100 cane plants, or 50 trees and shrubs. Not allowed for organic certification. 1/2 oz.

L666A Agri-gel, $3.00

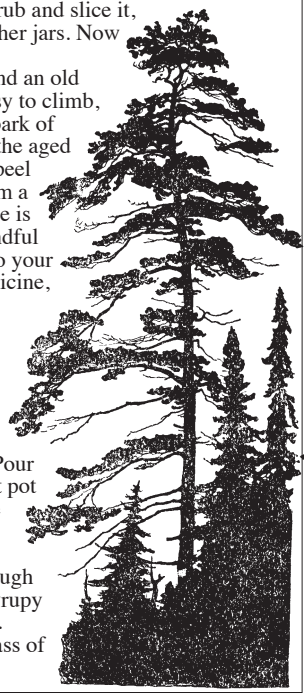
White Pine Cough Syrup

Folks are always asking for Laura's cough syrup recipe. There's nothing exact to her method, and it takes half the year, but we think it's worth the time and effort.

At the height of summer, eastern white pines start to drop their sticky green cones. Gather 6 or 7, slice them lengthwise, pop them into a pint jar and douse them with vodka. Store in a cool dark place.

September is the best time to find local honey. Infuse a pint jar of honey with slices of fresh ginger root. Store in a cool dark place.

In October, dig an echinacea root, scrub and slice it, submerge in vodka and store with the other jars. Now you're rolling.



In February, on a sunny afternoon, find an old white pine tree, preferably one that's easy to climb, and look for old crusted wounds in the bark of the trunk. Scrape about a tablespoon of the aged pitch into a tin. Then, carefully cut and peel away small handful of younger bark from a damaged limb or somewhere that the tree is least likely to miss it. Then, gather a handful of pine needles and head on home. Go to your cool dark place, collect your jars of medicine, and get back in the kitchen!

In a small pot, combine the bark and needles with some water and simmer it for 20 minutes. Let it cool. Remove the bark and set the liquid aside.

In a separate pot, gently heat the aged pine pitch until it's just barely melted. Carefully pick out the detritus. Pour the cooled pine bark liquid from the first pot over the cleaned pitch, stir, and set aside to cool.

Add some echinacea tincture and some of the pine-cone tincture, then enough of the gingered honey to create a nice syrupy consistency. Strain it off and bottle it up.

Settle in by the fire to enjoy a shotglass of syrup. It's delicious.

Ordering Instructions

Order online at fedcoseeds.com/trees.

Or mail your order form to: **Fedco Trees, PO Box 520, Clinton, ME 04927.** Please use a current catalog.

• Use the 2020 order form; you may submit as many pages as you need: photocopies, forms downloaded from our website, or printouts mimicking our format.

• Keep a copy of your order for your records. To confirm receipt of your order, enclose a stamped self-addressed postcard.

• We do not take fax or phone orders.

Scionwood orders and early shipment of rootstock: Order online or use the order form on p. 37. More information on p. 16.

Volume discounts! if you order by January 17, 2020. Sorry, no volume discounts on later orders. Discounts apply only to orders either picked up or shipped to one address. Please see order form for details.

Payment

We accept check, money order, Visa, MasterCard, Discover, and AmEx; payment must accompany all orders. We request that mailed orders under $25 pay by check or MO. Make your check out to Fedco. We will charge your card when we receive your order. We will bill or refund you for any adjustments as each order is completed.

Sales Tax

Because of the Supreme Court decision last June, we must collect local sales taxes in states that require us to do so. States affected are listed on the order forms. *Farmers:* Please send us a copy of your farm exemption. Otherwise we must charge sales tax. Maine residents and pickup customers pay 5.5% on all goods purchased.

Group Orders

• We accept group orders online. Group coordinators can click on Group Ordering on the Fedco Trees page for instructions.

• By mail, send us at one time all your members' order forms with one payment and receive the individually packaged orders at one address. The group total earns the discount, if any. Use an additional order form for a group cover sheet. Keep copies of members' orders.

Handling Charges

We charge $10 for handling each time you adjust your order. Additions and deletions are costly for us to process. You are welcome to place as many separate orders as you wish.

Sorry! You can't have that. Some states have restrictions on imported plants. Please check this list to make sure you're not trying to order something that's restricted in your area.

•We do not ship any plants outside the U.S.

AZ: *Carya* spp. Hickory; *Juglans* spp. Walnut
CA: *Carya* spp. Hickory; *Castanea* spp. Chestnut; *Juglans* spp. Walnut; *Pinus* spp. Pine; *Quercus* spp. Oak
CO: *Artemesia absinthium* Wormwood. Some counties prohibit *Prunus* spp. Cherry, Peach, Plum. Please check your county regulations.
CT: *Valerian officinalis*
FL: *Castanea* spp. Chestnut; *Cornus* spp.; *Quercus* spp. Oak
GA: *Vaccinium* spp. Blueberry, American Cranberry
ID: *Humulus lupulus* Hops; *Vitis* spp. Grape
IN: We cannot ship any plants to Indiana because of its Black Vine Weevil certification requirement.
KS: *Juglans* spp. Walnut
MI: *Abies* spp. Fir; *Vaccinium* spp. Blueberry, American Cranberry, Lingonberry
MT: *Pinus* spp. Pine
ND: *Artemesia absinthium* Wormwood
NJ: *Rosa* spp. Rose
NM: *Carya* spp. Hickory
NY: *Vitis* spp. Grape
OR: *Castanea* spp. Chestnut; *Corylus* spp. Hazelnut; *Humulus lupulus* Hops; *Vaccinium* spp. Blueberry, American Cranberry; *Vitis* spp. Grape
SD: *Artemesia absinthium* Wormwood. Some counties prohibit *A. absinthium*. Please check your county regulations.
TX: *Carya* spp. Hickory; *Juglans* spp. Walnut
WA: *Artemesia absinthium* Wormwood; *Castanea* spp. Chestnut; *Corylus* spp. Hazelnut; *Humulus lupulus* Hops; *Vaccinium* spp. Blueberry, American Cranberry, Lingonberry; *Vitis* spp. Grape

Plants in soil medium cannot be shipped to the following states: AK, AL, AR, AZ, CA, HI, ID, KS, MS, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA. The following plants come in soil: *Actinidia* spp. Kiwi; *Alcea* Hollyhock; *Arctostaphylos uva-ursi* Bearberry; *Calluna vulgaris* Heather; *Delphinium*; *Digitalis mertonensis* Strawberry Foxglove; *Gaultheria procumbens* Wintergreen; *Lonicera caerulea* Honeyberry; *Pulsatilla vulgaris* Pasque Flower; *Rubus* Nelson Blackberry; *Salix* spp. Willow (except Niobe Weeping) ; *Schisandra*; *Sempervivum* Hens & Chicks; *Vaccinium angustifolium* Lowbush Blueberry Sod; *V. corymbosum* Highbush Blueberry; *V. macrocarpon* American Cranberry; *V. vitis-idaea* Lingonberry

Deadlines

• Volume discount deadline is January 17, 2020.
• Scionwood order deadline is February 21, 2020.
• Final order deadline (except scionwood) is March 6, 2020.

Shipping

See the order forms for pricing details and volume discounts.

• We ship via UPS ground or USPS Priority Mail; our choice based on weight.

• We fill all orders on a first-come first-served basis.

• **Alaska** shipments go via USPS Priority Mail. Please include a postal address. This rate also applies to anyone in the Lower 48 who requires postal delivery.

• **Small & Light shipping** applies only to items with stock numbers beginning with L: perennials, bulbs, strawberries, rhubarb, hops, asparagus, scionwood, and more. If you order any other items in addition to these, you must pay the regular shipping charges.

• **Special Ship Dates:** If you require a specific ship date during our regular shipping time (approx. 3/30–4/15), we'll charge $15 to cover extra handling costs. We do not ship outside of this range of dates.

When will my order arrive? You will receive an automatic email confirmation with the UPS or USPS tracking number when it leaves our warehouse. If you're in New England, it may take one day to arrive. If you're outside New England, it may take several days.

• Scionwood and early rootstock orders ship **around March 16**.

• We ship everything else beginning **around March 30**, continuing until around April 15, according to planting zone.

Pickup

• Please note that we require **a minimum subtotal of $50 for pickup** orders. All smaller orders must be shipped.

• **Pick up your order at our annual Tree Sale** at our warehouse, 213 Hinckley Rd. in Clinton, ME. Friday and Saturday, **May 1–2**, are reserved for preorder customers. The second Friday and Saturday, **May 8–9**, we are open to the public.

• Tree Sale hours are **9:00–3:00 each day**.

• **Early Pickup:** If you don't plan to shop at our Tree Sale, you can pick up your order at our warehouse April 28, 29 or 30, Tuesday through Thursday, between 9:00–3:00. Less fun, but shorter lines.

• We will send you a pickup reminder and map in April.

• If you fail to pick up your order, we'll charge $15 handling plus cost of shipping to send you your order. Please don't make us do this.

• We will offer surplus for sale at the Tree Sale. Sometimes we have stock left over after the Tree Sale, but not after mid-May when we shut down completely and go home to plant.

Substitutions

When dealing with live plants, we can never be certain that we can fill your order. If something becomes unavailable, our default mode is to substitute a similar variety because most people prefer a similar tree or plant to a refund. On the order form, if you indicate you don't want any substitutions, we'll send a refund. If you order apples, please indicate whether you will accept the varieties on similar rootstocks.

Out of Stocks

Some customers wonder why we don't contact them when something on their order is out of stock. We understand the inconvenience. Some of our stock arrives in November to be stored through the winter, but much more of it arrives in early spring just before—or even during—shipping. When we don't know about a shortage or crop failure until the last minute, it's impossible to contact customers. We do our best to please you, but we'll never be able to compete with the volume offered by big box stores and giant websites. However, we think you'll find we've got them all beat on quality and variety.

Plant sizes

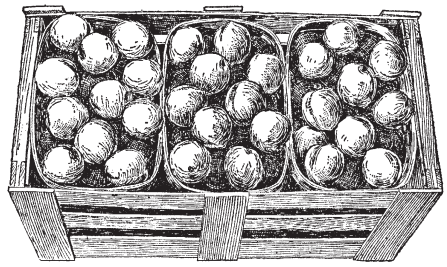
Sizes listed for each item should be considered an average. The trees and shrubs in your order will sometimes be slightly larger and occasionally smaller than these projections. Unfortunately, we can't take requests for particular sizes or branching preferences. But fret not—you will receive healthy trees with excellent root systems. In our experience, smaller trees with well-proportioned roots suffer less transplant shock and wind up out-growing larger stock. If trees were like widgets, we could stamp them all out the same on our 3D printer. But these are living things. We're glad every one of them is unique.

Fedco Trees 2020

PO Box 520 Clinton, ME 04927
www.fedcoseeds.com

Volume discount cutoff:
January 17, 2020
Final order deadline:
March 6, 2020

Visit fedcoseeds.com to check product availability.



(From mailing label) CC-

Farm or Group Name

Name

US Mail Delivery Address

Town St Zip

UPS Delivery Address

Town St Zip

Phone

Email

Delivery Options:

- ❑ **Ship** in late March to mid-April.
- ❑ **Pickup at Tree Sale** in Clinton. Pay no shipping.
  Must have a minimum subtotal of $50.
- ❑ **Early Pickup** in Clinton, April 28, 29 or 30. Pay no shipping.
  Must have a minimum subtotal of $50. (Sorry, no shopping on these days!)

Substitutions: (see p. 34)

	Yes	No
I will accept a similar variety.	❑	❑
I will accept similar rootstock. (Applies to apple trees only.)	❑	❑

Volume Discounts: *(only orders received by* **1/17/20***)*

Subtotals over $100	take 5% off
over $300	take 10% off
over $600	take 15% off
over $1200	take 20% off

Shipping Charges:	Adjusted Total	Shipping Charge
Regular Shipping (Continental US)	Under $141.00	$22.50
	Over $141.00	16% of Adjusted Total
Alaska Shipping (Priority Mail only)	Under $125.00	$25.00
	Over $125.00	20% of Adjusted Total
Small & Light Shipping (All item #s must begin with **L**)	Under $63.00	$10.00
	Over $63.00	16% of Adjusted Total

Sales Tax:		
ME addresses and all pickups	-	Pay 5.5% sales tax on Adjusted Total
MD, VA	-	Pay your local tax rate on Adj Total
IL, KY, MI, MN, NC, NJ, NY, PA, RI, VT, WI, WV	-	Pay your local tax rate on Adj Total plus Shipping

Subtotal from reverse (minimum of $50 for pickup orders)	
Volume Discount	–
1% Fedco Member Discount from Subtotal (see p. 70)	–
Adjusted Total	=
Shipping	+
Sales Tax	+
Total	=
Donate to MeHO (Maine Heritage Orchard, see p. 12)	+
Donate to Wild Seed Project (see p. 62)	+
Grand Total	=

(Please make checks payable to **Fedco**.)

- **See complete ordering information on page 34.**
- **We ship via UPS or Priority Mail, our choice.** If you require Priority Mail delivery, use the Alaska rates.
- For early shipment of rootstock or for scionwood, order online or use the scionwood form on page 37.
- We will add a $10 handling fee each time you ask us to make adjustments after we have received your order.
- Orders will ship between approximately March 30 and April 15; we will add a $15 handling fee if you specify a particular shipping date within this range. *Sorry, we do not ship at later times*.
- We require a minimum subtotal of $50 to place a pickup order.
- Consider donating your refund to the Maine Heritage Orchard at MOFGA (see page 12).

We accept Visa, MasterCard, American Express and Discover Card. Exp. Date

Help support the Maine Heritage Orchard:

- ❑ Donate all my refund to MeHO
- ❑ Donate up to $5.00
- ❑ Donate up to $2.00

Fedco Trees 2020: Trees, Shrubs & other Plants

	Item #	Qty	# Plants per pkg	Name	Price Each	Total Price
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
					Subtotal	

If you are ordering more than 28 items, copy this page or our format and submit as many pages as you need.

If you order *only* item numbers beginning with **L**, you qualify for our **Small & Light shipping rate**. See other side for details.

Order Comments:

Fedco Trees 2020

Scionwood

PO Box 520 Clinton, ME 04927

www.fedcoseeds.com

(From mailing label) CC-

Farm or Group Name

Name

US Mail Delivery Address

Town St Zip

UPS Delivery Address

Town St Zip

Phone

Email

Orders for scionwood and early shipment rootstock must be submitted by **February 21, 2020**

Delivery Options:

☑ Ship around March 16. *(Sorry, we cannot ship scionwood at other times or hold scionwood for pickup.)*

Shipping Charges:	Adjusted Total	Shipping Charge
Regular Shipping (Continental US)	Under $141.00	$22.50
	Over $141.00	16% of Adjusted Total
Alaska Shipping (Priority Mail only)	Under $125.00	$25.00
	Over $125.00	20% of Adjusted Total
Small & Light Shipping (All item #s must begin with **L**)	Under $63.00	$10.00
	Over $63.00	16% of Adjusted Total

Sales Tax:		
ME addresses and all pickups	-	Pay 5.5% sales tax on Adjusted Total
MD, VA	-	Pay your local tax rate on Adj Total
IL, KY, MI, MN, NC, NJ, NY, PA, RI, VT, WI, WV	-	Pay your local tax rate on Adj Total plus Shipping

Scionwood Total (from reverse)	
Rootstock Total (from reverse)	+
Subtotal	=
1% Fedco Member Discount (see p. 70)	–
Adjusted Total	=
Shipping	+
Sales Tax	+
Grand Total	=

(Please make checks payable to **Fedco**.)

Scionwood, or scions, are twigs for grafting. They are $5 each and are approximately 8" long.
For larger quantities consider buying by the foot: 10-foot minimum per variety, $4.50 per foot.
Scionwood quantities are limited, so order early.

We will ship scionwood and early rootstock orders around March 16, 2020. Scionwood-only orders may ship a little sooner; orders with rootstock may ship a little later. Remain calm. **You will receive an email notification when your order ships.** We routinely send scions and rootstock during cold and freezing weather. They are fine in their packaging no matter how low the temps are during shipping. It's also not unusual for packages to be delayed by snowstorms. Even if your order spends an extra couple days in transit or your scions have icicles hanging off of them, the plant material will still be OK to use. However, **we are not responsible for the quality of plant material in the event your package is not promptly picked up or opened.**

Please note: We try to provide wood that is close to ¼" in diameter. When only smaller wood is available and we consider it usable, we send it. We do not issue refunds or replacements based on diameter of wood. Nature is variable and some varieties do not grow large wood. We expect that you know how to graft and will bend your grafting methods to meet the materials. If the wood is too small to use the whip-and-tongue method, let the bark slip on the stock and make a bark graft instead.

- **We ship via UPS or Priority Mail, our choice.** If you require postal delivery, use the Alaska rates.
- **For more information about storing and collecting scionwood**, see page 16.
- **For descriptions of scionwood varieties**, please check our website: fedcoseeds.com/trees.
- **For grafting supplies and literature**, please refer to our Seeds & Supplies catalog, or visit fedcoseeds.com/ogs.

We accept Visa, MasterCard, American Express and Discover Card. Exp. Date

Help support the Maine Heritage Orchard:

- ☐ Donate all my refund to MeHO
- ☐ Donate up to $5.00
- ☐ Donate up to $2.00

Fedco Trees 2020: Scionwood

Apples	# sticks	# feet
L-801 Airlie Red Flesh		
L-802 Alexander		
L-803 Ashmead's Kernel		
L-804 Ashton Bitter		
L-805 Autumn Arctic		
L-806 Baldwin		
L-807 Beauties of Wellington		
L-808 Benton Red		
L-809 Bitter Pew		
L-810 Black Gilliflower		
L-811 Black Oxford		
L-812 Blue Pearmain		
L-813 Brandywine		
L-814 Briggs Auburn		
L-815 Brock		
L-816 Bullock		
L-817 Burgundy		
L-818 C'Huero Ru Bienn		
L-819 Calville Blanc		
L-820 Canada Reinette		
L-821 Centennial		
L-822 Charette		
L-823 Cherryfield		
L-824 Chestnut		
L-825 Cortland		
L-826 Cox's Orange Pippin		
L-827 Dabinett		
L-828 Deane		
L-829 Duchess of Oldenburg		
L-830 Dudley Winter		
L-831 Esopus Spitzenburg		
L-832 Fallawater		
L-833 Fameuse		
L-834 Frostbite		
L-835 Gala		
L-836 Gideon		
L-837 Gnarled Chapman		
L-838 Golden Russet (of NY)		
L-839 GoldRush		
L-840 Gravenstein		
L-841 Gray Pearmain		
L-842 Grimes Golden		
L-843 Haralson		
L-844 Harrison		
L-845 Harry Masters Jersey		
L-846 Hayford Sweet		
L-847 Hewe's Virginia Crab		
L-848 Honeycrisp		
L-849 Honeygold		
L-850 Jonathan		
L-851 Judy		
L-852 Kavanagh		
L-853 Keepsake		
L-854 King David		
L-855 King of Tompkins County		
L-856 Kingston Black		
L-857 Koidu Reinette		
Column 1 Total		

	# sticks	# feet
L-858 Kola		
L-859 Legace		
L-860 Liberty		
L-861 Macoun		
L-862 Major		
L-863 Martha Crab		
L-864 McIntosh		
L-865 Medaille d'Or		
L-866 Melody Maker		
L-867 Michelin		
L-868 Milden		
L-869 Milo Gibson		
L-870 Moses Wood		
L-871 Mutsu		
L-872 Nehou		
L-873 New Brunswicker		
L-874 Newt Grindle		
L-875 Newtown Pippin		
L-876 Northern Spy		
L-877 Nutting Bumpus		
L-878 Opalescent		
L-879 Pewaukee		
L-880 Pipsqueak		
L-881 Pomme d'Or		
L-882 Pomme Grise		
L-883 Porter's Perfection		
L-884 Pumpkin Sweet (Mt Vernon ME)		
L-885 Red Boskoop		
L-886 Red St. Lawrence		
L-887 Redfield		
L-888 Rhode Island Greening		
L-889 Ribston Pippin		
L-890 Rolfe		
L-891 Roxbury Russet		
L-892 Sansa		
L-893 Screen Shot		
L-894 Shavel Sharp		
L-895 Somerset of Maine		
L-896 Spice Sweet		
Column 2 Total		

	# sticks	# feet
L-897 St. Edmund's Russet		
L-898 St. Lawrence		
L-899 State Fair		
L-900 Striped Harvey		
L-901 Summer Rambo		
L-902 Sweet Sixteen		
L-903 Taterhouse		
L-904 Tolman Sweet		
L-905 Trailman		
L-906 Washington Sweet		
L-907 Wealthy		
L-908 Westfield Seek-No-Further		
L-909 Whitney Crab		
L-910 Wickson		
L-911 Williams Pride		
L-912 Windham Russet		
L-913 Winekist		
L-914 Winesap		
L-915 Winn Russet		
L-916 Winter Banana		
L-917 Wolf River		
L-918 Yarlington Mill		
L-919 Yellow Transparent		
L-920 Zabergau Reinette		
Pears		
L-921 Bartlett		
L-922 Blakeney Red		
L-923 Butt		
L-924 Comptesse Clara Frijs		
L-925 Gin		
L-926 Hendre Huffcap		
L-927 Luscious		
L-928 Nova		
L-929 Patten		
L-930 Staceyville		
L-931 Tyson		
Column 3 Total		
Total Number Ordered		

$ Total Sticks (@$5.00 ea.)	$
$ Total Feet (@$4.50/ft) (Minimum 10 feet per variety)	$

Scionwood sticks are around 8" long with a 1/4" caliper when possible. $5.00/stick.

For larger quantities, order by the foot for $4.50/foot. (10' minimum per variety)

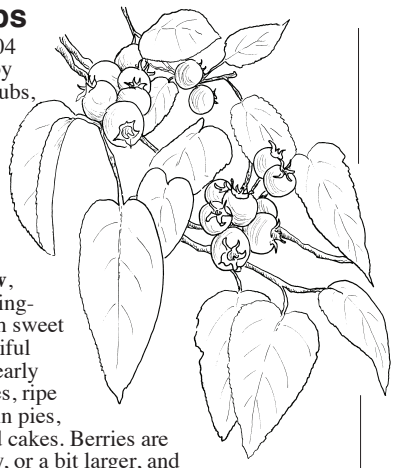
ROOTSTOCK – Bundle of 10

Rootstock is approximately 1/4" caliper. See page 16 for descriptions. *Sorry, Prunus americana is not available in 2020.*

Rootstock	Price	Qty	$Total
268-B Malus Antonovka	$29.50		
269-B M. Budagovsky 118	$29.50		
270-B M. M111	$29.50		
271-B M. Geneva 11	$33.50		
272-B M. Budagovsky 9	$29.50		
274-B Prunus avium	$29.50		
275-B P. cerasifera	$29.50		
276-B Pyrus OHxF97	$29.50		
Bundles Ordered			

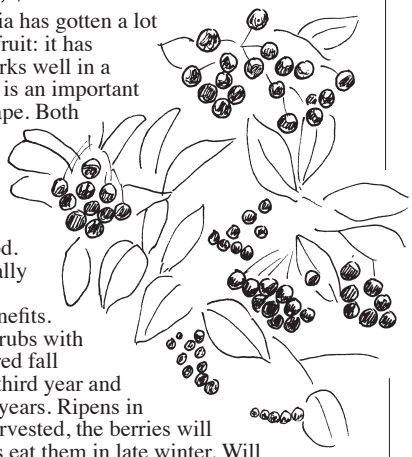
Small Trees and Shrubs

As Green's Nursery catalog from 1904 explains, "there are many trees that by pruning can be made to resemble shrubs, and many shrubs that by different pruning may be made to produce medium-sized trees."



Amelanchier alnifolia
'Regent' Juneberry 4-6' x same. J. Candrian intro, Faribault, MN, 1997. Commonly called **Saskatoon**, **Serviceberry**, **Saskatoon**, **Shadblow**, **Shadbush** and **Shad**. Very hardy spring-flowering compact prolific shrub with sweet purple-magenta edible berries. Beautiful fragrant 5-petaled white flowers are early harbingers of spring in Maine. Berries, ripe mid-July in central Maine, are good in pies, cobblers, jellies, jams, smoothies and cakes. Berries are about the size of a lowbush blueberry, or a bit larger, and seedier. Popular with wildlife. Nice red-orange fall color. Thrives along stream beds as well as on rocky slopes. Tolerates partial shade, salt, pollution and wet spots but not standing water, yet would appreciate well-drained fertile soil and full sun. Foliage somewhat susceptible to leaf spot or rust but this doesn't affect the fruit. Considered to be self-fruitful but we recommend planting with other Amelanchiers to ensure pollination. Native to northwestern North America. Taxonomy of Amelanchiers are a point of confusion in the nursery trade where common names and even botanical names are used interchangeably. Furthermore, these plants easily hybridize with each other in nature. Z2. (1-3')

485A Regent Juneberry, $15.00



***Aronia* spp. Chokeberry** Aronia has gotten a lot of press in recent years as a superfruit: it has wonderful medicinal qualities, works well in a range of culinary applications and is an important wildlife plant in the native landscape. Both red (*A. arbutifolia*) and black (*A. melanocarpa*) chokeberries are edible when cooked, but we emphasize the red for wildlife, while the black may be a better choice for medicine and food. Black chokeberries are commercially cultivated for their high levels of antioxidants and myriad health benefits. Both species are small rounded shrubs with blueberry-sized fruit and electric-red fall foliage. Begins to bear fruit in its third year and increases to full yield around five years. Ripens in late July or early August. If not harvested, the berries will hang on the bushes until songbirds eat them in late winter. Will form colonies. Not particularly picky about where it grows: adaptable to moist or dry areas, sun or partial shade. Native to eastern U.S. Self-fruitful. Z3/4. All are **ME Grown.** (1-3')

***A. arbutifolia* 'Brilliantissima'** 6-8' x 3-4' In *The Best of the Hardiest*, John Sabuco calls red chokeberry "one of our finest native landscape shrubs." Upright multi-stemmed form. Dense clusters of small white flowers with red stamens. Birds love the abundant persistent glossy bright red fruit. With "brilliant" fall foliage, this plant is the best alternative to the invasive burning bush.

487A Brilliantissima Red Chokeberry, $15.00

***A. a.* Red Chokeberry Seedlings** 6-10' x 3-6' Each one is genetically unique. Beautiful in mass plantings and borders. Plant several in a hedge and make the birds happy!

488A Red Chokeberry Seedling, $14.50
488B Red Chokeberry Seedlings, bundle of 5, $60.00

***A. melanocarpa* 'Viking'** 4-6' x same. Introduced in Sweden. Upright vigorous high-yielding shrub produces very large dark tasty berries.

490A Viking Black Chokeberry, $15.00

***A. m.* Black Chokeberry Seedlings** 3-6' x same. Each one is genetically unique. Plant several for an attractive edible hedge.

491A Black Chokeberry Seedling, $14.50
491B Black Chokeberry Seedlings, bundle of 5, $60.00

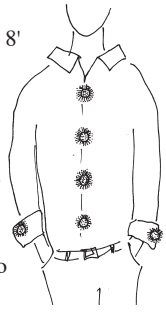
Plant Sizes All of our woody plants are well-rooted bare-root plants. Some shrubs may be a bit shorter than the specs given, and some hardwoods may be much taller. Because of the nature of living plants, size variations will naturally occur within each crop.

***Calycanthus floridus* Carolina Allspice** 6-10' x 6-12' Beautiful aromatic native shrub with unique 1" dark burgundy-maroon flowers and shiny polished leaves. Blooms while breaking dormancy late April-early May and flowers sporadically through summer. Upright flowers resemble small magnolias with petals spiraling into similar-looking sepals, a characteristic of many primitive plants. Leaf, bark and flowers all highly fragrant of an aroma resembling spiced apples. Bark is edible, tastes very similar to cinnamon bark, and can be used the same way to spice puddings, toast and desserts. In warmer regions fruit will develop but is poisonous and should be avoided. Dirr considers this plant one of the great treasures of eastern North America, especially when allowed to grow into a large open specimen. Flowers on new wood so best pruned in summer. Partial sun and moist rich soil. Native to stream edges and woodlands of southeastern U.S. Our trials in central Maine are so far proving it to be hardy in Zone 4. Z4/5. (1-3')

492A Carolina Allspice, $15.00

***Caragana arborescens* Siberian Peashrub** 15-20' Nitrogen-fixing cheerful bright green upright multi-stemmed oval shrub well suited to windbreaks, hedges and borders. Delicate yellow flowers in spring are followed by small seed pods that turn a golden yellow. The pods and the small "peas" are edible; eaten raw, they taste like garden peas, though not as sweet. Makes an acceptable chicken feed. Silvery bark and compound foliage, each with 8–12 small obovate leaflets. Easy to grow; just put them in and let them go. Adaptable to poor soils, drought, salt. Full sun. Maintenance free. Self-fertile. Native to Siberia and Manchuria. Z3. (1-3')

493A Siberian Peashrub, $14.50



***Cephalanthus occidentalis* Buttonbush** 6-10' x 8' Loose rounded branchy shrub with masses of unusual spherical fragrant white flowers that appear for 4–6 weeks in summer—a magnet for every honeybee around. These highly ornamental blooms the size of ping-pong balls do well in dried flower arrangements. The seeds (nutlets) make good duck fodder in the fall. Bright green foliage. Often found in masses along the shores of New England's rivers and ponds but also suitable for well-drained soil. Recommended in hedges for naturalizing. Native to eastern U.S., west to New Mexico. Z4. **ME Grown.** (1-3')

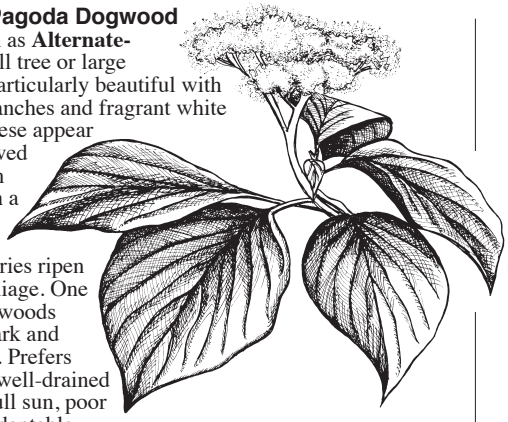
494A Buttonbush, $15.00

***Cercis canadensis* Redbud** 25-30' x same. Small vase-shaped single- or multi-stemmed tree is highly ornamental with edible flowers and seeds. In early spring, clusters of small brilliant purplish-pink pea-like flowers are so abundant they fill the entire tree, dotting the branches and even coming right out of the trunk. Flowers edible raw or cooked. Flat leguminous 2–3" pods have roastable edible seeds high in antioxidants. Nitrogen-fixing tree is also valuable as an early-season nectar plant for bees. Large heart-shaped leaves emerge opaque pink, mature to deep green and turn yellow in fall. Smooth dark bark becomes plated and brick-red with purple undertones. Sun or partial shade, soil adaptable. Fine as a specimen tree or in groups. Native to central and eastern U.S. and may not reach full maturity size in northern areas. Very tender and only marginally hardy in Zone 5. **ME Grown.** (1-3')

495A Redbud, $16.75

"Planning which trees to plant is keeping me sane in an otherwise insane period in our nation's history. Thank you!"
–Anne Ogilvie, Lancaster, MA

***Cornus alternifolia* Pagoda Dogwood** 20' x 30-35' Also known as **Alternate-Leaved Dogwood**. Small tree or large multi-stemmed shrub, particularly beautiful with its tiers of horizontal branches and fragrant white 2–3" flower clusters. These appear in mid-late spring followed by immature olive-green berries, each tipped with a tiny bright yellow style remnant. In midsummer clusters of dark blue berries ripen above the blue-green foliage. One of the most popular dogwoods with the birds. Roots, bark and inner bark all medicinal. Prefers partial shade and moist well-drained acid soil, but tolerates full sun, poor soil and even clay. pH adaptable.



Excellent naturalized as a specimen or in groups. Reddish-purple fall color. Susceptible to golden canker: when dormant, prune out diseased branches to prevent spores spreading to the trunk. Native to eastern U.S. Z3. (1-3')

497A Pagoda Dogwood, $16.50
497B Pagoda Dogwood, bundle of 5, $70.00

***C. kousa* var. *chinensis* Kousa Dogwood** Seedling 20-30' x same. Also referred to as **Chinese Dogwood**. Introduced by EH Wilson, Hubei, China, 1907. Horizontally spreading small specimen tree or large shrub covered with layers of 3–5" milky-white blossoms for up to 6 weeks in early summer. The pointed bracts give blossoms a starlike appearance followed by deep pink edible exotic fruit the size of ping-pong balls. Peel off the skin or simply squeeze it open and bite into the custardy pulp. The flesh is sweet, mild and reminds us of pawpaw. Tan, grey and faint orange exfoliating bark. Scarlet-orange-yellow fall foliage. Used up north as an alternative to the iconic southern dogwood tree, *C. florida*. Resistant to dogwood anthracnose and borer. Prefers light well-drained soils with an abundance of air and sun, but it'll tolerate shade and damper areas. Very adaptable. Native to China and Japan. Z4. (1-3')

498A Kousa Dogwood, $16.50

Barking up the right tree

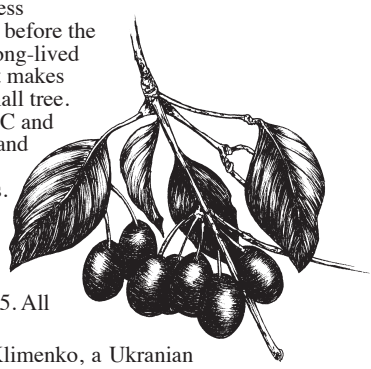
We plant trees for many reasons and one of them is winter interest: texture, color and beauty on the barren snowy screen. Bark is particularly appealing this time of year. It comes in strips, plates, scales, ridges. Smooth, peeling, grey, white, striped, striated, dappled. The outer layer (periderm) is composed of cork cells, mostly dead, while the inner layer contains the phloem, which is responsible for transporting nutrients to the roots. This is the green you see when you scratch away the outer bark to determine if a young tree is alive. (When you write to us to say you think your tree is dead, we'll ask you to perform this "scratch test.") The green color is from photosynthesis and can provide extra energy to a tree in rough times. A tree that has lost its leaves during the growing season can often find the fuel to make new ones.

Bark protects the tree's vascular system from pathogens, desiccation, fire, climate and unwanted organisms; hosts lichens, mosses and epiphytes; feeds mammals; harbors myriad insects; provides hiding places in its grooves where birds like nuthatches cache valuable seeds. Bark has been used by humans for roof shingles, baskets, canoes, clothes, containers, dyes and medicines.

And then there is bark that we simply love to look at. Maybe beauty is part of the evolutionary scheme, enticing us to plant more of these trees! For interest in the winter garden, consider planting these favorites:

Paper Birch: Chalky white, matte, peeling with salmon inner layers
Yellow Birch: Shiny, silky, golden, curling
Dogwoods (Redosier, Yellow Twig) and **Coral Bark Willow**: Vibrant, striking colors!
Vines like Grape, Wisteria or the native Honeysuckles : Funky, shredding
Shagbark Hickory: Large shedding plates. Very cool.
Bur Oak: Corky and groovy
Dawn Redwood: Deeply fissured
Ninebark: Exfoliating, reveals nine layers of reddish and tan inner bark

***C. mas* Cornelian Cherry** 20-25' x 15-20' The fruits of this Old World gem, harvested by humans for thousands of years, are delicious bright red pear-shaped "cherries" that set heavily in late summer. Dense, chewy and sweet, they deliver a distinctive toothsome tang—there's nothing like it. Let them ripen to full sweetness before picking. Clusters of small delicate yellow flowers cover the leafless tree in early spring for a striking show before the forsythias even think of waking up. Long-lived large shrub with upright rounded habit makes a great hedge or can be pruned to a small tree. Nutritious, medicinal, high in vitamin C and good in jam, syrup, tarts, fruit leather and wine. The wood is hard and strong, once used for spears and wheel spokes. Prefers well-drained soil and full sun but otherwise adaptable. Likely to bear fruit in 2–3 years. **Partially self-fertile**—plant multiples to improve yields. Native to Europe and Asia. Z4/5. All are **ME Grown.** (2-5')



***C. m.* 'Elegant'** Bred by Svetlana Klimenko, a Ukranian botanist at the Central Botanic Garden in Kiev. Selected for good fresh-eating flavor. Ripens around the third week of August in Maine. Picking window lasts between two and three weeks. Fruits are about 1 1/4" long with a very slender elongated shape. Soft flesh is tricky to pit so best eaten out of hand.

499A Elegant Cornelian Cherry, $28.00

***C. m.* 'Pioneer'** Another Klimenko intro with good flavor. More tart than Elegant but better for processing. Ripens around the first week of September in Maine, about one week after Elegant. Picking window lasts for three or four weeks. Fruits mature to about 1 1/2" long and have a pronounced fat pear shape. Firm flesh is easy to pit.

500A Pioneer Cornelian Cherry, $28.00

***C. m.* Cornelian Cherry Seedlings** Each one will be unique. Plant several for genetic diversity. They will pollinate each other and any named cornelian cherry cultivar.

501A Cornelian Cherry Seedling, $16.00
501B Cornelian Cherry Seedlings, bundle of 5, $68.00

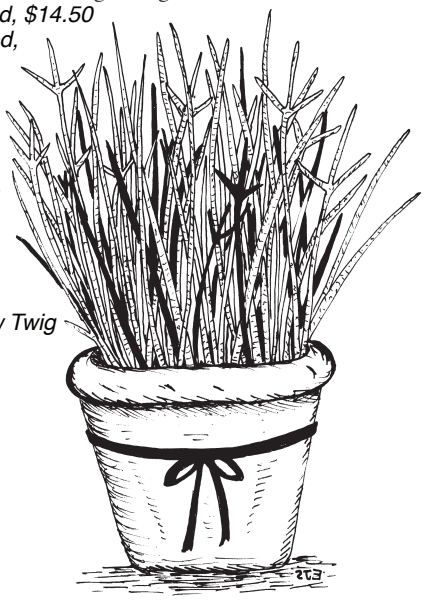
***C. sericea* Dogwood** 8-10' Formerly called *C. stolonifera*. Broad loosely rounded multi-stemmed shrub spreads freely by stolons (underground stems) and forms excellent hedges and borders. Most admirable in the winter when the masses of colorful stems contrast a backdrop of freshly fallen snow. Bring them inside and enjoy them for wreaths, arrangements and basket-weaving. By June, the stems are hidden by dark green foliage and sprinkled with cymes consisting of tiny 4-petaled star-shaped flowers. Whitish berries in 2–3" clusters are popular with dozens of bird species. One of the most valuable of our native wildlife plants. Perfect for swamps, streams and wetlands. Very adaptable to a range of soils and climates, but generally likes wet conditions. Sun or partial shade. Fast growing and easy to transplant. To improve stem color, prune out older stems in the spring. Species native to eastern U.S. Z2. (1-3') **ME Grown.**

***C. s.* Redosier** 8-10' Bright red stems are a favorite sight from late fall through early spring, before the foliage emerges. These plants were propagated from a swath of wild stems growing in central Maine.

502A Redosier Dogwood, $14.50
502B Redosier Dogwood, bundle of 5, $59.50

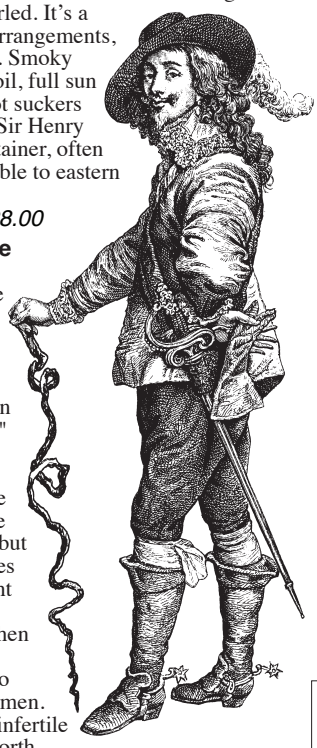
***C. s.* 'Flaviramea' Yellow Twig** 6-8' x 8-10' Introduced by Späeth Nursery, Germany, 1900. If you're a fan of Redosier, you might also like the yellow version of the species. Shares flowering and foliage characteristics but features radiant yellow stems.

504A Flaviramea Yellow Twig Dogwood, $14.50



ME Grown = grown in Maine at one of our small local nurseries.

***Corylus avellana* 'Contorta' Harry Lauder's Walking Stick** 6-12' x 15-20' Also called **Corkscrew Hazel**. Discovered in Frocester, Gloucestershire, England, 1863. A non-fruiting (except on very rare occasions) European filbert with a dense mounded form, grown for its contorted branches, leaves and catkins. Branching begins low and curves, twists and curls from the largest branch down to the tiniest twig. Even the drooping foliage is wrinkled and curled. It's a completely wonderful sight. Used in flower arrangements, canes, handles and ornamental woodworking. Smoky dark grey bark. Prefers well-drained loamy soil, full sun to partial shade. Remove any uncontorted root suckers that appear from below the graft. Named for Sir Henry Lauder (1870-1950), a famous Scottish entertainer, often seen walking with his crooked cane. Susceptible to eastern filbert blight. Z4. (1-3')



505A Harry Lauder's Walking Stick, $28.00

***Cotinus obovatus* American Smoketree** 20-30' x same. Also called **Smoke Tree** and **Chittamwood**. Rare and exquisite. (Not to be confused with Smokebush, *C. coggygria*.) Bluish-green large oval leaves emerge yellow, orange, amber, red and purple, are upright and filter the sun like stained glass. They relax and turn green as they mature, then put on another color show in fall. Bears 6–10" panicles of tiny yellow-green flowers in early June. As they fade, fuzzy light pink "hairs" emerge and persist all summer, giving the tree a hazy smoky misty quality. These plumes are more subtle than the non-native Smokebush, but the foliage is the real eye-catcher here. Finches love the seeds. Scaly interesting bark. Thought to be a relic tree from 25 million years ago, it almost went extinct during the mid-19th c. when the wood was over-harvested for fence posts, tool handles and orange fabric dye. Allow it to grow several trunks or prune to a single specimen. Tolerates most soils but prefers well-drained infertile ground. Full sun to partial shade. Native to North America. Z4. **ME Grown.** (1-3')

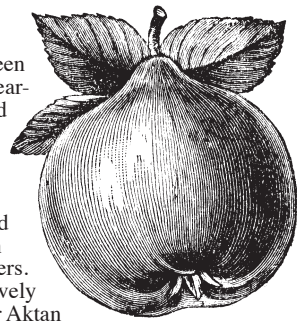
506A American Smoketree, $18.00

***Crataegus laevigata* English Hawthorn** 15-20' x 12-20' Shrubby thorny low-branching dense tree. Glossy deep-green lobed foliage is intricate and ornamental compared to other species. Small white flowers emerge in early spring followed by 1/2" fruit (or "haws") that redden in fall. Mealy mild haws contain 2–3 nutlets and are undesirable for fresh eating, though commonly processed for medicinal tea, tincture, syrup or other preserves. In fact, leaves, buds, flowers, fruit and seed are all beneficial to health. This species is the traditional hawthorn used for centuries as a circulatory and cardiovascular tonic herb. Harvest berries by cutting off loaded branches with pole pruners. Upright oval form. Traditionally used for livestock hedges throughout the world. Use caution around the very sharp thorns, which can puncture tractor tires or shoes. Adaptable to a wide range of soils. Prefers full sun. Native to Europe and N. Africa. Z4. **ME Grown.** (1-3')

507A English Hawthorn, $18.00

"It has arrived and it is so much better than reading anything on a computer. I got a cup of tea, bundled up in my chair with posted notes and highlighters to enjoy. Massive praise to your catalog producing crew."
–Judith Pauley

***Cydonia oblonga* Quince** 10-25'



A small tree with large aromatic tan or yellowish fruit shaped like a cross between a pear and an apple. Oblong furrowed pear-shaped fruit with golden-yellow skin and mild light yellow flesh. Usually eaten in stews and preserves. Makes a fragrant orangey-pink jelly—not like anything we've tasted. Sometimes added to hard cider. At one time, every Maine dooryard had a quince. Cultivated for millennia in faraway lands. Large white to pink flowers. Wood of mature trees becomes impressively gnarled and twisted. We asked coworker Aktan Askin what he most loves about quince: "Funny enough, I love the sound a big, fully ripe quince makes as it falls off the tree and hits the ground. So solid. So invincible. Thunk! But that aside, I really just love eating fresh quince with a spoon. Carving little balls out and chewing to juice them in my mouth." We'll let you know how his quince cheese experiments go.

Similar soil requirements to other fruit trees. Plant in full sun and space 15–20' apart. Prune like an apple tree. Needs protection from apple borers (see page 69). Susceptible to fireblight. Ripens in October in central Maine; may not ripen in coldest areas. Not to be confused with Flowering Quince, the ornamental shrub *Chaenomeles*, which has smaller fruit. **Self-fruitful but planting more than one will give better yields.** Native to Asia. Z4/5. (3-6')

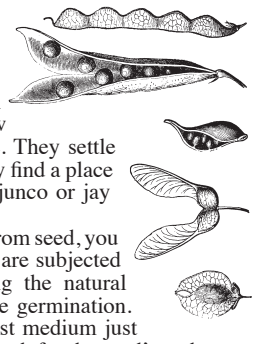
***C. o.* 'Aromatnaya'** A very hardy Russian variety, maybe the hardiest of them all. Selected for its pineapple-like flavor notes and resistance to disease.

508A Aromatnaya Quince, $32.00

***C. o.* 'Smyrna'** Brought from Smyrna, Turkey, by Californian GC Roeding, whose father Fred brought the famous Smyrna fig to the U.S. Selected for excellent flavor and good keeping quality.

509A Smyrna Quince, $32.00

Seeds on snow



Snowshoeing the fields in winter, when the sight of soil is just a dream, we find birch seeds floating on the snow. Although most of these tiny lightweight scales tumble down from their parent source before the snow falls, wind loosens the stragglers over time. They settle on the cold moist snow until it melts and they find a place to germinate. That is, if a winter sparrow, junco or jay hasn't come along to gobble them up.

If you've ever grown trees or perennials from seed, you know about cold stratification, where seeds are subjected to regulated cold and moisture, simulating the natural process they go through in winter to induce germination. To cold stratify, we store the seed in a moist medium just above freezing so the outer shell softens enough for the seed's embryo to emerge from its casing. Why don't we just plant the seeds in the ground? We could, but with weather being fickle, we would risk seeds perishing during freeze/thaw periods. Stratifying seeds indoors allows a little more control. Plus, creatures like crows and squirrels can't take off with our stash. It sounds like a lot of work, but with healthy viable seed it's usually quite easy.

Each type of plant requires a certain range of time in cold stratification. Many need 3–4 months, some less. Our favorite reference for these specifications is *Seeds of Woody Plants in the United States*, published by the U.S. Forest Service in 1974, a must-have for enthusiasts and professionals. This book offers specific info for each seed. Most often all that's required is a lightweight sterile medium (peat, sand or a combo with some vermiculite or perlite) and enough moisture to keep the seeds from drying out but not so much that they rot. Seeds and soil are layered in a container, like a plastic tote with a cover, and placed in a root cellar to spend the winter at about 35°. As the cellar warms in spring, the seeds begin to wake up.

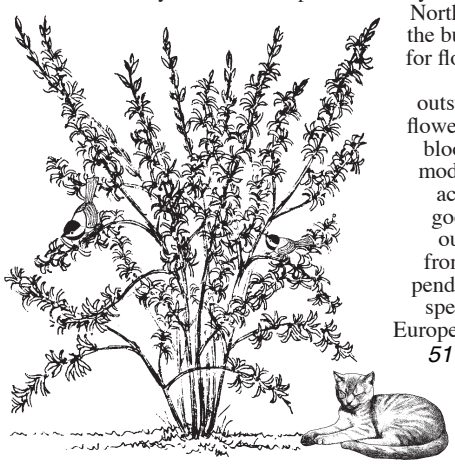
Some seeds are quick and have high germination rates, while others require more patience. Some seeds need special handling due to their toxins. Some seeds need to be scarified—to have their surfaces abraded to break imperviousness to water and air. This can be done either mechanically or chemically with sulfuric acid, to replicate what happens to a seed as it passes through the gut of an animal. Some of our perennial seeds, the little ones you can imagine a bird or mammal would swallow whole, may need this treatment.

Don't have a root cellar? A fun small-scale way to play with cold stratification is to start seeds outside in pots in the fall. Densely sprinkle seeds on a lightweight soil media, cover them with a little sand, and set pots where snow will blanket them through the winter. For more on this method, go to: wildseedproject.net/how-to-grow-natives-from-seed.

***Diervilla lonicera* Northern Bush Honeysuckle** 2-4' x 2-5' Also called **Dwarf Bush Honeysuckle**. Don't be fooled by the common name: it isn't really a honeysuckle. Every time we've visited the Diervilla in grower Sharon Turner's garden, it's buzzing with bumblebees. Five little bright yellow petals on each tubular flower curl open and away, an invitation to insects, hummingbirds, butterflies and garden tourists. Clusters of flowers form in the axils of new growth. Extended-season bloomer. Long pointed lustrous dark green leaves emerge with a hint of bronze. Good for erosion control or mass planting. We've become fond of the wild specimens popping up around our homesteads. Full sun to light shade. Tolerates even the poorest soils, but if you want it to naturalize, give it rich moist soil. Pest and disease free. Native to eastern North America. Z3. (1-3')

510A Northern Bush Honeysuckle, $15.00

***Forsythia* x *ovata* 'Northern Gold' Forsythia** 6-8' x 5-7' Bred by Felicitas Svejda, Ottawa, Canada, 1979. One of the earliest forsythia cultivars to flower in spring. Upright form with yellow-grey branches clad in healthy rich green foliage. If your forsythia blooms only from the snow line down, you've been duped: don't buy cheap big-box forsythia.



Northern Gold has not only the bud hardiness necessary for flower production above the snow line, but also outstanding golden-yellow flowers. You can have a full bloom every year! Prefers moderately fertile, slightly acid to neutral soils with good drainage. Makes an outstanding hedge. Bred from *F. ovata*, a hardy dependably blooming Korean species native to Asia and Europe. Z3. (1-3')

511A Northern Gold Forsythia, $14.50

Maybe a winter bouquet will cheer you up

The icy dark winter can drag on for some folks, especially here in Maine. Despite winter's challenges, we appreciate the slower pace after a long busy season. Winter can be restorative, restful, warm and bright. While it can feel like forever until we see our vegetables and perennials again, the woodies hold us over as they stand out against a backdrop of pure white. Their bark and branch forms revealed, we can more easily observe buds and unique characteristics that distinguish them from closely related species. Certain grand features, like the golden bark of Yellow Twig dogwood or bright red fruit of winterberry, can shine only on winter days. While out on brisk walks or pruning the orchard, we snip woody stems to bring life indoors and to admire more closely some our favorite trees.

A winter bouquet may look like a bundle of dead sticks to some, but for the rest of us it brings life into the home and can make a cheery gift for a friend. Here are some ornamental stems that hold up well:

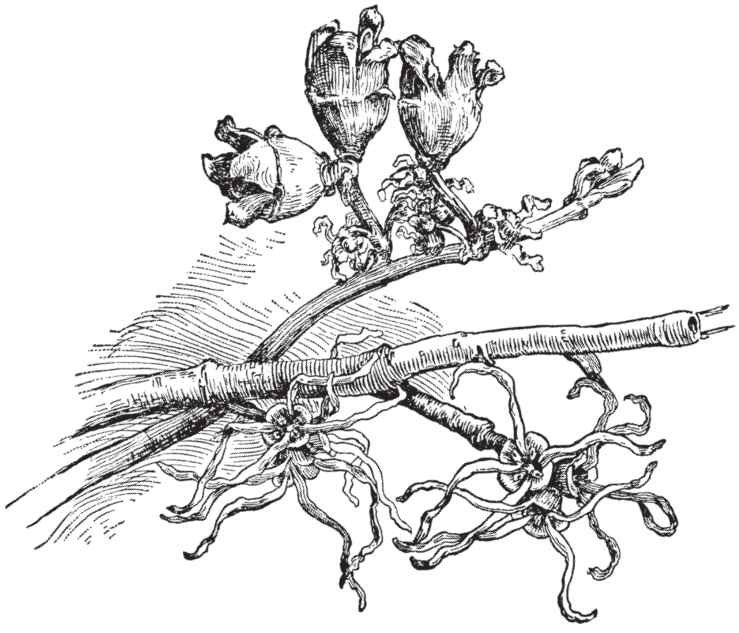
Balsam Fir: Aromatic, holds evergreen needles
Bayberry: Fragrant berries and foliage
Birch: Attractive bark and catkins
Coral Bark Willow: Coral-colored stems
Crabapples: Especially David, Liset and Purple Prince for fruit clusters
Eastern Cedar: Aromatic, holds evergreen needles
Grape: Ornamental stems, sometimes used for wreaths
Harry Lauder's Walking Stick: Contorted unusual stems and catkins
Hawthorn: Red berries and ornamental thorny stems
Red Chokeberry: Berry clusters (they hold better than black chokeberry)
Redosier Dogwood: Red stems
Rosa Rugosa: Especially Hansa and Scabrosa for large bright hips
White Pine: Aromatic, holds evergreen needles
Witch Hazel: Yellow flowers in late fall! Strip leaves; put stems in water.
Winterberry: Red berries, often used in wreaths
Yellow Twig Dogwood: Yellow stems

***Hamamelis vernalis* Vernal Witch Hazel** 6-10' x 6-15' While its medicinal properties are similar to Maine's native fall-blooming *H. virginiana* (see next item), this late-winter bloomer is smaller in stature and not quite as hardy. Yellow flowers with dark red centers emerge along thin branches late February into March. Each flower is comprised of four 1/2" petals that curl and crinkle. Petals are more colorful and a bit shorter than those of *H. virginiana*. Bring branches inside to force through winter as an alternative to forsythia. Mild fruity aroma. Tendency to sucker and form thickets. Medium-dark green deeply veined scalloped oblong-ovate leaves turn golden yellow in autumn for a couple of weeks before falling. Will sunburn in full sun. Partial sun to light shade in cool fertile woodsy-duff loam. Native to midwestern U.S. Hardiness may be variable in New England. Z4/5. (1-3')

512A Vernal Witch Hazel, $16.50

***H. virginiana* Witch Hazel** 8-20' x same. A small irregular rounded fall-flowering medicinal tree or large shrub. Quirky 2/3" yellow flowers appear in early to mid November. Oval hazel-like textured foliage turns brilliant golden-yellow in fall. Makes a soothing astringent with a seemingly endless number of uses from controlling acne to soothing diaper rash, baggy eyes (yes!), poison ivy, chicken pox, even an unhappy love life. Thayer's Witch Hazel Astringent is still available in your local drug store. Most preparations involve simply brewing tea from the leaves and/or twigs. "Witch" is said to refer to the odd flowering time or maybe it's because dowsers like to use the interesting forked branches to "witch" for water. Full sun or shade. Prefers moist acid soils; avoid dry spots. No pests or diseases, does well with very little care. We do nothing to ours and it looks better and better every year. Native Canada to Georgia. Z3. **ME Grown.** (1-3')

513A Witch Hazel, $16.50



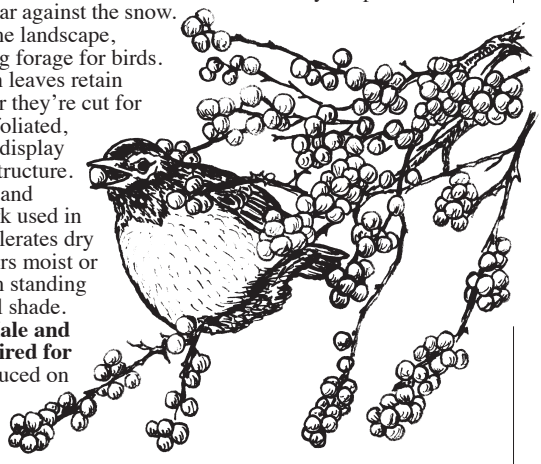
Pollination clarification

Self-pollinating, **self-fertile** and **self-fruitful** all mean the same thing. You can plant a self-fertile tree and expect it to pollinate itself and set fruit alone (for example, peaches, pie cherries, apricots). However, many self-fertile trees' fruit sets are enhanced with multiple plantings (elderberries and *Amelanchiers*). **Self-sterile** or **self-infertile** means that another tree of a different cultivar or variety is needed to set fruit (cross-pollinate). This is the case with most apples. **Monoecious** (from Greek meaning 'one household') plants have their female and male parts on separate flowers both together on the same plant. In most cases, these plants are self-fertile, but not always! (Black walnuts are monoecious but the male flower releases pollen before the female flowers open, so having two plants is better than one). **Dioecious** ('two households') plants have either all male or all female flowers on separate individuals. You would need to plant one female and one male to achieve pollination. When you buy unsexed seedlings, you generally have a 50-50 chance of getting one gender or the other (ginkgo, spicebush, bayberry, persimmon). **Bisexual** or **perfect** flowers contain both male and female components within the same flower. Some plants with perfect flowers will be self-fertile, some will not. Often, specific cultivars or varieties have perfect flowers but they cannot pollinate themselves and need other varieties to do it for them (apples and blueberries).

***Hydrangea paniculata* 'Phantom' Hydrangea** 6-8' x same. Introduced by Pieter Zwinenburg, Netherlands, 1990. We aren't sure why this charming sister seedling of Limelight was given such an eerie name—perhaps it's the massive looming white blossoms, among the largest of the *paniculatas*. Gigantic 15"-long conical inflorescences bloom mid-July and persist through September. Panicles consist of small understated white fertile flowers and showy sterile ones all gradually turning pink as temperatures cool. Long-lasting cutflower. Very sturdy stems do not flop with the weight of the flowers like other *paniculatas*. Blooms on new wood, so shape to your desired size with annual pruning in winter or very early spring. Needs plenty of space. Unlike other popular hydrangeas, this one is plenty hardy in northern New England. Z3. (1-3')

514A Phantom Hydrangea, $16.50

***Ilex verticillata* Winterberry** Also called **Black Alder**, **Fever Bush**, **Possumhaw**, **Swamp Holly** and more. Deciduous suckering medicinal holly with clusters of upright stems. Best known for profusions of bright red 3/8" berries that stand out after the leaves fall—they keep their color all winter, spectacular against the snow. A staple of the Maine landscape, providing late-spring forage for birds. Lustrous deep green leaves retain their color long after they're cut for decoration. Richly foliated, but open enough to display interesting branch structure. Leaves used for tea and tonic, astringent bark used in herbal medicine. Tolerates dry conditions but prefers moist or wet acidic soil, even standing water. Sun or partial shade. No serious pests. **Male and female plants required for fruit**, which is produced on female plants. Plant males within 30' of females. Native from midwestern to eastern U.S. Z4. (1-3')



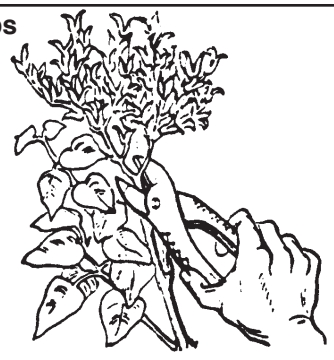
***I. v.* 'Winter Red'** 8x7' **Female.** Mid-sized with darker green foliage. We have a cluster of these planted right outside our window to enjoy during the cold snowy months. Berries are larger and much more prolific than wild seedlings. **Southern Gentleman male required for fruit.**

515A Winter Red Winterberry, $15.50

***I. v.* 'Southern Gentleman'** 6x6' **Male** selection to pollinate Winter Red. Don't be deceived by the name—it's hardy. One will pollinate several females.

516A Southern Gentleman Winterberry, $15.50

Pruning Flowering Shrubs



• **Summer-Flowering Shrubs** should be pruned in late winter or early spring, before the new wood begins to grow. These shrubs blossom on the new wood they produce in the spring.

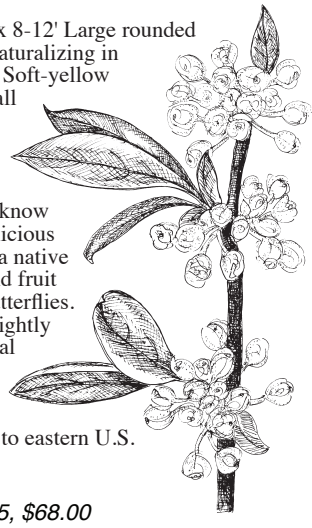
• **Spring-Flowering Shrubs** form flower buds in the summer, after they are finished blooming. Prune them immediately after their bloom is over. If you wait and prune them in the winter or following spring, you will likely remove many flowering buds.

• A common error is to prune or shear shrubs straight across the top. This encourages top-growth and the lower part of the shrub becomes woody and unsightly with less foliage. Proper pruning promotes growth at the base of the shrub.

• Observe your plants and see what they need. Some trees and shrubs benefit from aggressive pruning each year and might even respond well to being cut all the way back to the ground; others will respond by delaying fruit or blossom. Some plants thrive with little or no pruning.

• Overgrown shrubs with little foliage near the base may be rejuvenated by cutting canes down to the ground in early March, even though early blooms may be sacrificed that year. They will send forth new shoots in late spring and will be bushy with foliage clear to the ground. Pinch off tops when the desired height is attained. It usually takes two to three years to rejuvenate shrubs and hedges completely.

***Lindera benzoin* Spicebush** 6-12' x 8-12' Large rounded multi-stemmed native shrub suited to naturalizing in moist or wet areas, singly or in groups. Soft-yellow flowers early in spring followed by small clusters of glossy red berries by mid to late summer. Blue-green foliage turns golden yellow in fall. Edible berries and medicinal twigs and bark. Scratch the berries, foliage or stems and you'll know how it got its name: all three have a delicious lemony spicy scent and can be used as a native alternative to allspice. Leaves, twigs and fruit used in teas. Attracts bees, birds and butterflies. Prefers moist well-drained neutral or slightly acidic soils. Often found in full or partial shade, but at its showiest in full sun. These are unsexed seedlings: **male and female plants required for fruit** so plant several for best results. Native to eastern U.S. Z5. **ME Grown.** (1-3')



517A Spicebush, $16.00

517B Spicebush, bundle of 5, $68.00

***Lonicera caerulea* Honeyberry** Also called **Haskap** or **Edible Honeysuckle**. Our Canadian neighbors are crazy about haskaps, ramping up commercial U-pick orchards, exporting fruit to Japan, and making fun treats like honeyberry jam and ice cream. Medium-sized fruiting shrub is somewhat similar in bush and berry to our native highbush blueberry. Small dark blue oval fruit, very high in antioxidants, ripens in June around or just before strawberries. Extensive breeding has led to improved mild sweet flavor and larger fruit. In the Japanese Ainu language, *haskap* means 'lots of little things on top of the branches.' Productive plants bear at a young age with proper pollination. Ten pounds of fruit per plant is possible after a few years. Adaptable to most soils with a wide pH range (5.0–8.5). Fruits best in full sun. Extremely hardy. Low maintenance and disease free, though leaves may show sign of sunburn as season progresses. Native to Siberia and the Kuril Islands. **Plant 2 or 3 varieties for best pollination**, although please note that the Indigos are siblings and won't pollinate each other—plant them with Aurora. Z2. (well-rooted transplants)

***L. c.* 'Aurora'** 5-6' x same. (Solovey x MT46.55) USask intro, 2014. Russian and Japanese parentage. Popular in commercial production and with backyard berry growers due to its big fruit with exceptionally sweet flavor. Contains less acidity than other varieties. Berries are roughly double the length of other varieties. Selected among 10,000 seedlings over the course of a decade of breeding. Ripens after the Indigos. We are excited to offer this newer introduction for the first time this year.

518A Aurora Honeyberry, $14.50

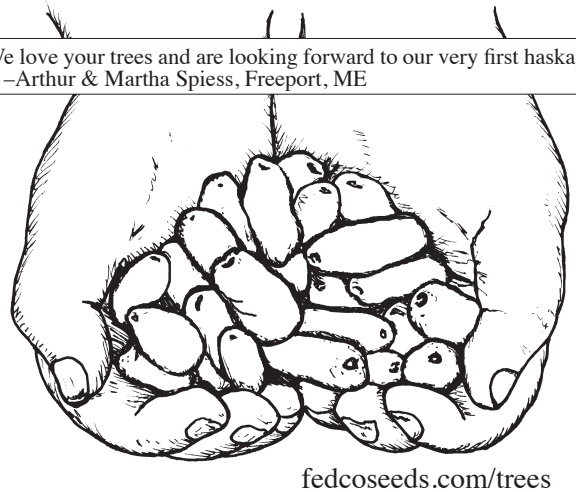
***L. c.* 'Indigo Gem'** 4-6' x same. USask intro, 2007. An excellent variety for fresh eating. Sweet and slightly tangy with a chewier texture than the others; one of our favorite varieties we've offered. Very productive from a young age. Leaves susceptible to mildew and sunburn late season after fruiting.

521A Indigo Gem Honeyberry, $14.50

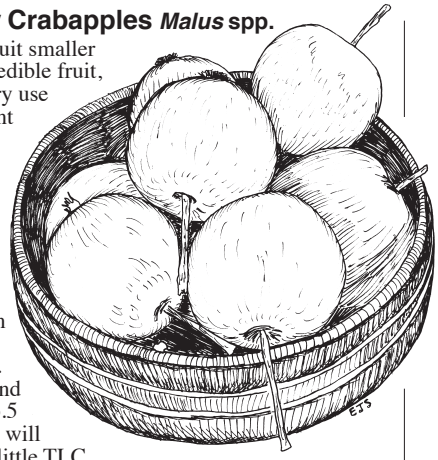
***L. c.* 'Indigo Treat'** 4-5' x same. USask intro, 2011. Russian, Japanese and Kuril Island parentage. Similar in size to siblings Indigo Gem, Tundra and Borealis, which should not be used as pollinators. Small soft chewy indigo-colored fruit with overall pleasant flavor. With decent pollination, some plants can produce up to 8 lbs of fruit by their fifth year. Ripens earlier than Aurora. Upright growth habit.

522A Indigo Treat Honeyberry, $14.50

"We love your trees and are looking forward to our very first haskaps!"
–Arthur & Martha Spiess, Freeport, ME



Flowering and Culinary Crabapples *Malus* spp.



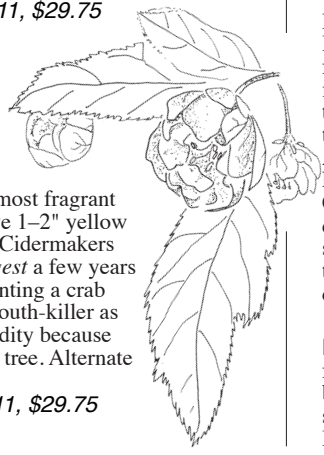
A crabapple is any apple with fruit smaller than 2" in diameter. Crabs bear edible fruit, some more favorable for culinary use than others. Some have persistent wildlife fruit that hangs on the tree for weeks or even months. Others have hardly any fruit at all. The flowers, tree form and even the shape of the leaves can vary subtly or profoundly. Most are magnificent in bloom and are often ornamental year round, especially in winter when the leaves drop and the trees show off their interesting forms. Although crabs prefer full sun and deep well-drained soils of 5.5–6.5 pH, they are quite forgiving and will thrive in many locations with a little TLC.

They don't like to be drowned or starved for water, and they must be protected from borers, mice and deer (see pages 69-70).

Crabapples require less formal pruning than apples. Prune broken branches and suckers, and encourage the tree to assume its unique form. Our crabapples are grafted on M111 rootstock (see page 5). **Crabapple trees need a second variety for pollination,** but any apple or crabapple blooming at the same time, within 1/4 mile, will probably do. (2½-5')

All American 15-18' x 12' Parentage unknown. Troy, ME. Solid red buds open to pure red single blooms. Bronze-green foliage turns medium-green as it matures. Simple oval form. Cranberry-red pea-sized fruit may be persistent—we're not sure since the birds nab them all in late fall. Grower Delton Curtis found this tree growing on the side of the road in Troy. He stopped and asked the owner if he could cut a scion. The owner said he picked it up at a local nursery, but it's unclear who named this tree or if it was actually just a seedling. So far, it doesn't match any other crab we have growing, so it'll keep this name for now! Z4. **ME Grown.**

526C All American Crabapple on M111, $29.75



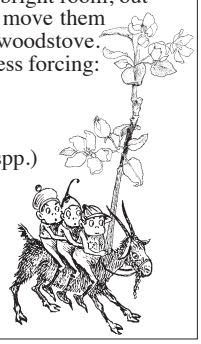
Brandywine 20x20' *M. ioensis* 'Plena' Klehm's No. 8 (*M.* x *purpurea* Lemoinei x M. Klehm's Improved) Incredibly beautiful fragrant flowers followed by unbelievably bitter fruit. Deep red buds open to small deep pink double rose-like blossoms. Put an arrangement of these flowers in a vase, and people will swear they are roses. One of the most fragrant crabs. Some growers will hate the unattractive 1–2" yellow fruit that drops in the fall and makes a mess. Cidermakers will love it. Very high in tannin. In *Cider Digest* a few years ago, one grower wrote, "You ought to try planting a crab called 'Brandywine'. WOW!!! what a real mouth-killer as far as tannin goes… Couldn't tell you the acidity because my tongue had gone dead." Loosely rounded tree. Alternate bloomer. Blooms late. Z4. **ME Grown.**

527C Brandywine Crabapple on M111, $29.75

Use the Force

In late winter, when cabin fever really sets in, forcing branches can do wonders for boosting morale. Bringing branches into the warm house fools buds into thinking spring has sprung and they go right ahead and break dormancy. Forcing is most successful the closer the plant is to flowering outdoors; in early winter the flower buds may not be fully mature. We usually start forcing in February, though it can't hurt to try earlier.

Soak stems for a few hours and then mist them daily to keep buds from drying out too quickly. Keep stems in a warm bright room, out of direct sunlight. Once branches break dormancy, move them to a cooler dimmer part of the house, away from the woodstove.



Here are some plants we list that we've had success forcing:

Apples and **Crabapples** (*Malus* spp.)
Plums and **Cherries** (*Prunus* spp.)
Carolina Allspice (*Calycanthus floridus*)
Cornelian Cherry and **Kousa Dogwood** (*Cornus* spp.)
Forsythia (*Forsythia* x *ovata*)
Juneberry (*Amelanchier* spp.)
Redbud (*Cercis canadensis*)
Mockorange (*Philadelphus lewisii*)
Vernal Witch Hazel (*Hamamelis vernalis*)
Willows (*Salix* spp.)
Wisteria (*Wisteria macrostachya*)

David 12x12' Arie den Boer intro, 1957. Naturally small tree with a compact rounded open form recommended for small spaces. Light pink buds open to abundant single white blooms. Bright red showy 1/2" persistent fruit. Outstanding in bloom and in fruit. Light green glossy foliage. On nearly every list of recommended crabs. Arie den Boer, author of the classic 1959 book *Ornamental Crabapples*, could be considered the "inventor" of the modern crabapple. Largely through his efforts, the crab became the popular ornamental it is today. The Arie den Boer Arboretum in Des Moines, IA, includes one of the largest collections of crabapples in the world. Excellent disease resistance. Alternate bloomer. Z4. **ME Grown.**

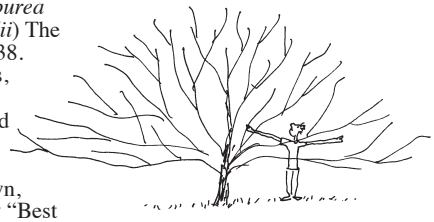
528C David Crabapple on M111, $29.75

Dolgo 25x30' From seed collected by NE Hansen of *M.* x *robusta* in 1897 at the Imperial Botanical Gardens, St. Petersburg, Russia. (*Dolgo* means 'long' in Russian.) Introduced in the U.S. in 1917. The classic culinary crab still found in old Maine dooryards. Apricot-pink buds, large fragrant 2" pure white single flowers bloom early. Beautiful purple-red 1½" teardrop-shaped fruit makes flavorful clear ruby-red jelly. In recent years the aromatic sweet, very acidic fruit has found favor with cidermakers. Great for canning, pickling and delicious sauce. Vigorous large blocky upright spreading tree consistently yields abundant summer crops. Dependable pollinator for all apples. Very hardy. Z2. **ME Grown.**

529C Dolgo Crabapple on M111, $29.75

Kaleidoscope 16' x same. GV 22. Seedling of Van Eseltine. Henry Ross intro, Gardenview Hort Park, Strongsville, OH, 2003. Sister seedling of Ross's Double Red. Henry wrote to us, "The flowers appear mostly in huge panicles at the ends of the branches." A kaleidoscope of dark pink, light pink and white double blossoms all share the tree simultaneously. Attractive small dark red 1/2" fruit. Bronze foliage. Loose rounded spreading open form. Henry Ross lived frugally, worked 18-hour days, and intentionally never married so as to dedicate his entire life to his horticultural park, a nonprofit green space endowed to the public forever. Another Fedco exclusive. Z4. **ME Grown.**

531C Kaleidoscope Crabapple on M111, $29.75



Liset 15x20' (*M.* x *purpurea* 'Lemoinei' x *M. sieboldii*) The Hague, Netherlands, 1938. Bright crimson-red buds, followed by single red flowers, often considered the brightest and truest red of any crab. Although not well-known, Liset shows up on every "Best Crabs" list. Once you see it, it's hard not to agree. Glowing reddish copper deep green foliage, our favorite of all "red-leaf" cultivars. This medium-sized tree has the absolute perfect open spreading horizontal form. Not too open, not too dense, not too large, not too shrimpy. Medium fruit display. Dark red 3/4" round fruit. Scab resistant. Z4. **ME Grown.**

532C Liset Crabapple on M111, $29.75

McDonald 15x15' Parentage unknown. Burkettville, ME. A large-fruited culinary crab from midcoast Maine. The medium-small heavy-bearing tree sits on a knoll just behind Delton's in-laws' farmhouse. Each single white flower starts as a faintly rose-blushed bud. According to Becky, Delton's wife, shortly after her folks purchased the place in 1959, an elderly neighbor approached them and said she had been gathering fruit from a crabapple tree on their property for years. To her knowledge it was the only tree of its kind around. She eventually moved to Augusta but returned each year to help harvest the fruit for her famous pickled crabapples and jelly. Z4. **ME Grown.**

533C McDonald Crabapple on M111, $29.75

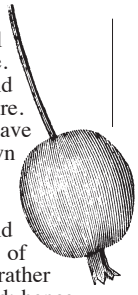
Pink Cloud 10x6' Ed Lewis intro, Bellevue, WA. A profusion of blossoms obscures the branches: one cloud of large double pink rose-like flowers on an upright vase-shaped tree. Buds are magenta pink and lighten as they open. Bronze-green leaves. One-inch fruit persists all winter. Becky describes this crab: "Yes, you can barely see the branches when in bloom…it's like a huge double rose and smells so sweet. It has many stages of beauty from the deep pink large buds to the double rose blooms, then the beautiful leaves and fruit. I've made jelly from the fruit which is tart and sweet at the same time. You have to pick them when ripe usually in October. If not, the birds will beat you to them." Z4. **ME Grown.**

534C Pink Cloud Crabapple on M111, $29.75

Crabapples for cider

Some crabapples, like **Dolgo** and **Brandywine**, are great additions to hard cider. And some varieties we've listed with cider apples on pages 14-15 are crabapples and have ornamental value, like **Hewe's Virginia Crab** and **Kola**.

Purple Prince 20x20' No 85-20-R2 (Bluebeard x Liset) John Fiala intro, Falconskeape, Medina, OH, 1970. Heavy annual blooms of single purple-pink flowers. Purple-bronze foliage. Half-inch blue-purple persistent fruit for the birds. Small round spreading slightly disheveled tree with nice open branch structure. Named when Prince Rogers Nelson was only twelve. Did Fiala have a premonition? Commemorate the pop legend right in your own backyard. No scab or other diseases. Z3. **ME Grown.**



535C Purple Prince Crabapple on M111, $29.75

Sargent, Mt. Auburn strain 8-10' x 20-30' *M. sargentii* Arnold Arboretum, 1892. Seed collected in Hokkaido, Japan, by one of America's most famous horticulturists, CS Sargent. A species rather than a variety, many of the Sargents have been started from seed: hence the variability. This one comes from the front entrance of the Mt. Auburn Cemetery in Cambridge, MA. Densely and horizontally branched from the base with no tendency to develop a central leader. Barely 8' tall and more than 30' wide, a delightful jumble of twists and curves—like a dozen connected pretzels trying to out-pretzel each other. Pink buds and profuse pure-white fragrant single flowers seem to bloom forever. Very small dark red-purple persistent fruit. Disease resistant. Z4. **ME Grown.**

537C Sargent Crabapple on M111, $29.75

Solon Hotel 25x25' Ed Brown intro, Solon, ME. Deep red-pink buds open to soft white-pink fragrant single blossoms. Very heavy bloomer every year, looks like a snowstorm when it drops petals in a breeze. Abundant crop of 1" green-yellow fruit for the birds drops in late fall. The tree appeared as a chance seedling above the banks of the Kennebec River just across Route 201 from the Solon Hotel, a local Somerset County gathering spot for generations. The Hotel, as it's locally called, dates back to when travel was slower, TV and internet were science fiction, and every town in Maine had a hotel. Z3/4. **ME Grown.**

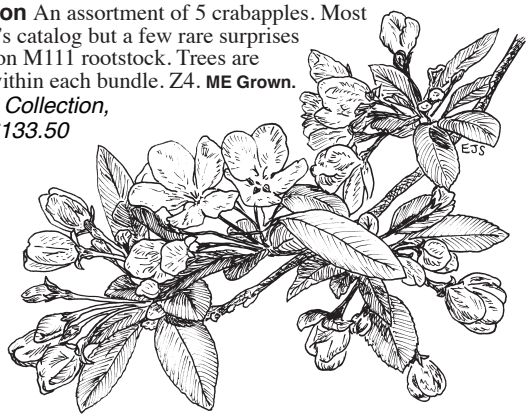
539C Solon Hotel Crabapple on M111, $29.75

White Cloud Seedling. Lyle Littlefield Garden, Orono, ME. On one of our annual trips to the Lyle Littlefield Garden, director Brad Libby pointed out this seedling as a personal favorite. We can see why: forms a white cloud of blooms every year, visible from across the arboretum. White Cloud is a fitting name! The buds begin light pink, then fade to a soft yellow just before opening to white. The effect is astonishing—soft green, white and yellow. Single blooms with golden yellow stamens in the center. Yellow-green foliage. Upright form with semi-weeping branches. Not a big tree. Fedco exclusive. Z3. **ME Grown.**

541C White Cloud Crabapple on M111, $29.75

Crabapple Collection An assortment of 5 crabapples. Most will be from this year's catalog but a few rare surprises may be included. All on M111 rootstock. Trees are individually labeled within each bundle. Z4. **ME Grown.**

547C Crabapple Collection, bundle of 5, $133.50



***Morus alba* x *M. rubra* 'Illinois Everbearing' Mulberry** 30x20' White County, IL, 1947. Sweet flavorful purple-black 1" blackberry-like fruit is delicious fresh, in sauces, pies, fruit leather or smoothies. What fruit you don't pick, the birds will. Great tree for viewing a huge variety of birds up close. Plant it next to the chicken pen where it will rain chicken feed into the yard for several weeks, or put down a sheet to collect the fruit as it falls. Dense round-topped tree is one of the last to leaf out in the spring and one of the first to set fruit. Ripens in mid-July and continues for several weeks into late summer. Fast growing, even in poor soils. Prefers moist well-drained soils but otherwise adaptable. Full sun to partial shade; withstands pollution, drought, wind and salt. **Self-fruitful** grafted cultivar, so only one plant required for fruit. Z4/5. (2-5')

550A Illinois Everbearing Mulberry, $31.25

***Myrica pensylvanica* Bayberry** 5-10' x same. A common sight along Maine's rocky shores. Glossy leaves are highly aromatic, although not to be confused with the Mediterranean bay leaf in your spice collection. Small greyish-blue waxy fragrant berries were historically used for making candles. Non-showy flowers appear in late spring followed by fruit production along the stems of female plants during summer into late fall. Plants feed numerous wildlife species and are especially craved by swallows. Rounded deciduous semi-evergreen very salt-tolerant shrub thrives in full sun to partial shade, sandy poor soils to heavy clay soils. Excellent en masse or in hedges, tends to sucker. Fixes nitrogen. Tends toward being dioecious: male and female plants required for good fruit development. Unsexed plants; **plant several if you desire berries**. Native to eastern U.S. Z2. (1-3')

552A Bayberry, $15.00

552B Bayberry, bundle of 5, $65.00

***Philadelphus lewisii* 'Blizzard' Mockorange** 4-5' x 3-4' COPF intro, Alberta, Canada. Medium-sized coarse upright loosely arching ornamental blooming shrub. A "blizzard" of sweet citrusy fragrance from pure-white slightly cupped 4-petaled blossoms for up to four weeks in late spring, after the lilacs fade. A spray of golden yellow anthers attractive to bees and butterflies accents each flower. Species was named after Meriwether Lewis who noted it in 1806 during the Lewis and Clark Expedition. Prefers moist rich well-drained soils but will grow well in most conditions. Full sun to partial shade. Since blossoms form on prior year's growth, best to prune after flowering. Similar to old-fashioned European *P. coronarius*, but this one is native to North America. William Cullina calls it "our most ornamental *Philadelphus* species." Z3. (1-3')

553A Blizzard Mockorange, $14.50

***Physocarpus opulifolius* 'Diabolo' Ninebark** 8-10' x same. Selected by Gunter Kordes and Hans Schadendorf, 1968. Later introduced by Monrovia Nursery, 1999. A dark-leaved sport singled out in a nursery of more than 120,000 seedlings near Hamburg, Germany, for its deep burgundy-red foliage. Pink rosy buds form in early May and open up to creamy white corymbs consisting of 30–60 tiny flowers. An early pollen source the bees love. Alternate roundish-ovate leaves have 3–5 lobes with a slightly serrated edge—reminiscent of highbush cranberry. Foliage adds visual texture to gardens, hedges and borders. When leaves drop in fall, attractive exfoliating brown bark is exposed. Upright stiff branches, slightly spreading. Easy to grow with few maintenance needs or disease problems. Drought tolerant. Grows well in neutral to acid soils. Species native Quebec to Virginia and inland. Z2. (1-3')

554A Diabolo Ninebark, $16.00

Make Space for Native Plants

We love incorporating native plants back into the landscape. These plants are attractive, natural and beautifully suited to our growing conditions. They are also the best food sources for our butterflies, bees and other wildlife. Here are some you'll find in our catalog:

Amelanchier	Diervilla	Mulberry
Arnica	Pagoda Dogwood	Nannyberry
Bayberry	Redosier Dogwood	Ninebark
Bearberry	Echinacea	Northern Wild Raisin
Birch	Elderberry	Oak
Blackberry	American Elm	White Pine
Black Cohosh	Balsam Fir	Beach Plum
Black Haw	Foxglove	Raspberry
Bloodroot	Geranium	Redbud
Buttonbush	Grape	American Smoketree
Highbush Blueberry	Hazelnut	Spicebush
Lowbush Blueberry	Blue Flag Iris	Spruce
Carolina Allspice	Jack-in-the-Pulpit	Walnut
American Chestnut	Lingonberry	Winterberry
Chokeberry	Sugar Maple	Witch Hazel
American Cranberry	Mockorange	Yarrow

"Thanks for offering more and more natives!"
–Ginny Remeika, Pownal, ME

***Prunus japonica* x *P. jacquemontii* Meader Bush Cherries** 4-5' x same. Elwyn Meader intro. Durham, NH. Bright red fruit is tart and smaller than a typical pie cherry but a lot easier to grow in northern New England. Very little true cherry flavor but still fun to eat and much easier to pick. Good for pie or jam. Whitish-pink blossoms in early spring are highly ornamental and thronged with native bees. Dr. Meader wanted a cherry that would flower late to avoid damage from spring frosts. While Joel appears to be the better of the two, Jan makes a great pollinator and is a fine snack in the garden. If you like Meader introductions, here are two more for your collection. **Plant 2 varieties for best pollination**, in partial to full sun. Susceptible to brown rot. Z3. Both **ME Grown.** (1-3')

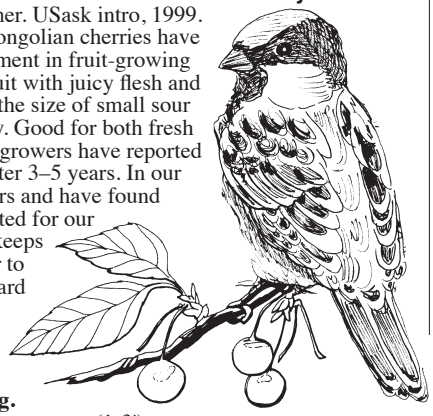
***P. j.* x *P. j.* 'Jan'** Productive and precocious. Small tart fruit is prolific from an early age. An average harvest on a mature plant is 3–4 quarts. Good for jams, processing or drying. Pit is somewhat large in comparison to flesh. **Needs Joel for pollination.**

555A Jan Bush Cherry, $20.00

***P. j.* x *P. j.* 'Joel'** The best of Meader's three bush cherries. Bears 3–4 quarts of freestone fruit per plant. Similar to Montmorency sour cherries, excellent for pies and jams. We were very pleased with the quality. Prefers well-drained fertile soil and full sun. **Self-fertile,** but planting Jan nearby will increase yields.

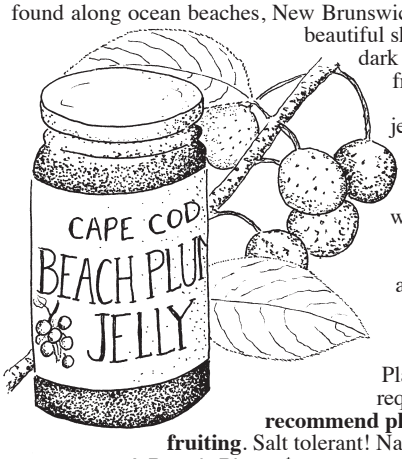
556A Joel Bush Cherry, $20.00

***Prunus* x *kerrasis* 'Carmine Jewel' Dwarf Sour Cherry** About 6-7' x same. Midsummer. USask intro, 1999. Crosses between sour and Mongolian cherries have created a great deal of excitement in fruit-growing circles. Delicious dark red fruit with juicy flesh and small pits are approximately the size of small sour cherries and ripen in mid July. Good for both fresh eating and processing. Some growers have reported getting 20–30 lbs per bush after 3–5 years. In our trials we saw fruit after 3 years and have found Carmine Jewel to be well-suited for our climate. Compact plant size keeps the fruit accessible and easier to net against birds than a standard cherry tree. Prefers full sun and decent soil with a pH of about 6.5. Pamper with mineral amendments and compost. **Self-pollinating.** Susceptible to brown rot. Z3. **ME Grown** (1-3')



557A Carmine Jewel Dwarf Sour Cherry, $20.00

***P. maritima* Beach Plum** 6' x 5-6' Rounded dense suckering shrub found along ocean beaches, New Brunswick to the Carolinas. In spring beautiful showy white blooms cover the dark branches. Purplish-red 1/2–1" fruit in late summer. Excellent jams, sauces and especially jelly. Although typically found growing naturally in poor sandy soils, the plants thrive in well-drained fertile soils with a pH of 6–6.5. Additional fertilization will increase productivity. We suggest an annual 5-gallon bucket or two of compost per plant. Prune to maintain an open center for good light penetration. Plant about 5' apart. Pollination requirements are uncertain—**we recommend planting at least two for good fruiting**. Salt tolerant! Native to eastern U.S. Z3. (1-3')



558A Beach Plum, $15.00

558B Beach Plum, bundle of 5, $65.00

***P. tomentosa* Nanking Cherry** 6-10' x same. Broad dense highly ornamental fruiting shrub, becoming open and attractively irregular. One of the earliest flowering fruits every spring. Pink buds open to masses of fragrant white 3/4" flowers. Deeply veined light green foliage with very fine fuzz (tomentum) lining each vein underneath. Excellent hedge plant: an edible landscape crop that produces a lot of fruit that actually is edible! Variable 3/4" fruit in early summer ranges in flavor from mild to tart and in color from scarlet to clear red to pink and sometimes even white. Eat fresh or frozen. Excellent jelly and fruit leather. Said to make a good pie but pitting would require quite a bit of work. Covering plants with netting will deter birds from robbing your crop. Prefers full sun in well-drained soil. Can be susceptible to brown rot. **Plant two or more for pollination.** Native to China and Japan. Z2. (1-3')

559A Nanking Cherry, $14.50

Rose *Rosa* spp. For millennia, roses have beguiled humans. The first cultivation of these flowers dates back more than 5000 years in China. Fossil records suggest that roses may have been around for more than 30 million years. Regarded as the ultimate icon of love, grace, beauty and elegance, roses continue to be the subject of art and poetry across the world.

Roses have long been used in medicine, food, tea and perfumery. In the first century, Pliny the Elder recorded more than 30 uses of rose medicine. Leaves, petals, hips and roots all have medicinal properties. Rose hips are rich in vitamin C and make a wonderful "rose apple" jam; rose-petal elixir calms the nerves and lifts the spirit.

Each year, we aim to offer a diverse selection of unusual and antique varieties. Unlike hybrid tea roses, these roses are all vigorous, cold hardy and on their own roots rather than grafted. The antique varieties grow slowly compared to newer hybrids and tend to be more difficult to propagate. You may notice when you receive your order that some of these roses have small root systems and little top growth. Don't be alarmed by this—it's just the nature of these old varieties. We can attest that they perform just as well as the others. Native to temperate regions throughout the world. (9-18")

***R.* 'Campfire'** 2-3' x same. Complex hybrid. Morden Stn, 2003. Introduced in 2013 through the Canadian Artist Series after rigorous trialing for cold hardiness. Compact shrub blooms continuously from summer until hard frost. Multicolored 3" flowers are nearly yellow at first with deep pink on the outermost edges, changing over time entirely to deep pink. Looking down on the fiery flower you can see where it got its name. Attractive disease-resistant dark green glossy leaves outlined in red. Z3.

563A Campfire Rose, $17.50

***R.* 'Canadian Shield'** 4-5' x 3-4' *R. floribunda* complex hybrid. Vineland Res Stn, Ontario, 2017. Recent collaboration between Vineland Research Station and the Canadian Nursery Landscape Association has led to an extremely hardy deep scarlet-red rose that has northern rose lovers talking. Mildly fragrant 3" double blooms consist of 42–52 petals per flower. Flowers bloom in continuous flushes midsummer until frost. Deep green glossy foliage is highly resistant to black spot and powdery mildew, even late into the season. Upright form. First rose in the 49th Parallel Collection to be released after decades of breeding. Canada Blooms' 2017 Plant of the Year. Z3.

564A Canadian Shield Rose, $17.50

***R.* 'Carmenetta'** 7-10' x 9-10' *R. glauca* x *R. rugosa*. Ag Canada, 1923. One of the tallest freestanding roses—almost more like a tree than a bush. Spreading suckering purple-red stems eventually become thick trunks that support overhead arching branches of flowers. Clusters of single pale pink blooms contrast beautifully against the purplish glaucous foliage. Bob Osborne at Corn Hill Nursery says that "in bloom it is simply breathtaking." Use for erosion control or hedges where height is desired. Vigorous. Give it plenty of space. Z2.

565A Carmenetta Rose, $17.50

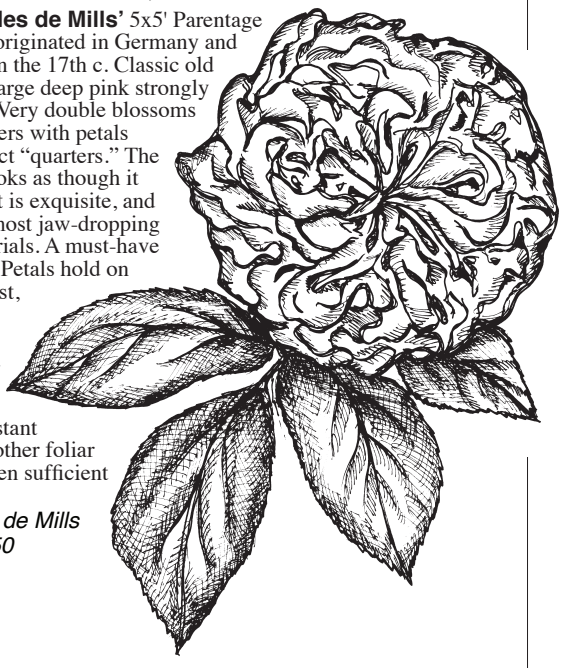
***R. alba* 'Maiden's Blush'** 5-6' x same. France, 15th c. In France this ancient rose was called Cuisse de Nymphe, but when brought over to Victorian England, the name swiftly changed to a more modest Maiden's Blush. Highly fragrant 3" very double soft medium pale pink flowers bloom profusely end of June to early July. Tightly arranged petals, sometimes more than 200 on a single flower, soften and open to a whitish, paler pink. Jen's all-time favorite rose. Rose propagator Bob Osborne says, "I can think of no other rose with such an intoxicating aroma, such sensuous color or perfection in form." Upright slightly arching spreading form. Elegant in every way. Z4.

566A Maiden's Blush Rose, $17.50

***R.* x *centifolia muscosa* 'Henri Martin'** 4-5' x same. Parentage unknown. Laffay, France, 1863. Famous old French rose also called **Red Moss**. Gorgeous fragrant crimson double blooms cover highly productive arching canes. Loaded with flowers June-July. Moss roses are a sport from a 17th-c. mutation on *centifolias* that caused tiny globular glands on the calyx and sepals that looks like…moss! Attractive rough dark green foliage on very thorny stems. Upright sturdy canes look their best when trained or supported over stone walls, fences and posts. Small deep orange hips. Z4.

567A Henri Martin Rose, $17.50

***R. gallica* 'Charles de Mills'** 5x5' Parentage unknown. Likely originated in Germany and named in France in the 17th c. Classic old garden rose with large deep pink strongly aromatic flowers. Very double blossoms open flat like saucers with petals divided into distinct "quarters." The face of the rose looks as though it was sheared flat. It is exquisite, and easily one of the most jaw-dropping in all of our rose trials. A must-have for *gallica* lovers. Petals hold on in bouquets. Robust, hardy and easy to grow. Roundish symmetrical form. Dark glossy green foliage is moderately resistant to black spot and other foliar diseases when given sufficient air flow. Z4.



568A Charles de Mills Rose, $17.50

Old-fashioned Roses

Roses grown in Europe before 1800 are referred to as "Old World" roses, including the cultivars of *Rosa gallica* and *R. alba*. Their pink colors ranged from the deepest dark purple of 'Cardinal de Richelieu' to a faint pink blush like that of 'Chloris'. There were no reds among these antique roses and, though rich in fragrance, they bloomed only once per season. In the late 1700s red roses with repeat blooming tendencies were introduced from China, shifting the focus of rose breeding toward those traits. Demand for the aromatic and medicinal qualities of the Old World roses declined, supplanted by flowers that lasted long through the season. The hybrids created since the 1820s are called "modern" roses and are much more commonly seen in gardens today.

R. gallica is considered the oldest rose, steeped in history, legend and myth, and still grows wild in some places in the Caucasus, the mountainous region between the Black and Caspian seas, where it originated. Its exact origin is unknown but it can be traced back fourteen centuries when it was considered a symbol of love by the Persians. The aromatic petals hold their scent better than any other rose and have long been considered medicinal. This species contains hundreds of different cultivars, some very similar and others unique. Most have similar compact shrub habits and are generally very hardy. Most modern-day roses are presumed to be descendants of the *gallicas*.

The *albas* are almost as old as the gallicas and are also believed to have traveled west from the Caucasus with the Greeks and Romans. Many of the *alba* cultivars were bred in the 1800s in Europe. Though they flower only once, they should not be overlooked, as their beauty and fragrance are unparalleled by any modern rose. They are considered "tree roses" with tall canes that can be trained to fences, pillars and stonewalls, like climbers. Unlike many roses, *albas* bloom on old wood—if pruned too heavily, they can take years to flower again. Like heirloom apples, they are actually more disease resistant than many of the modern hybrids.

R. rugosa 4-6' x same. Also called **Japanese Rose** or **Beach Rose**. Vigorous spreading shrub with dark green wrinkled (rugose) leaves. Flowers range from deep pink to white. Large edible red hips up to 1" are good for jams, teas and fresh eating right off the bush. Deb Soule of Avena Botanicals uses rugosa petals in her much-loved Rose Petal Elixir. Considered by herbalists of Western, Chinese and Ayurvedic traditions to be rejuvenating and cooling. Blooms form on both old and new wood, so pruning necessary only to control size. Prefers full sun and well-drained sandy soil but also flourishes in fertile garden beds. Tolerates salt, pollution and drought; practically care-free. Native to China and Japan. Z2.

570A Rosa Rugosa Rose, bundle of 5, $16.00

***R. r.* 'Hansa'** 6-7' x 7-10' Parentage unknown. Schaum and Van Tol, Holland, 1905. Large 3" clove-scented purplish-pink blooms begin early summer and rebloom in fall. Some flowers contain up to 30 petals—a productive cultivar for herbalists. Prolific giant fleshy red-orange hips. Glossy dark green disease-resistant foliage turns bright yellow-orange as the temps start dropping. Large vigorous vase-shaped mounded shrub can be used for hedges or erosion control. Prune annually to maintain size and productivity. Very famous for more than a century and a common sight on old farms throughout Maine and Canada. Very hardy. Z3.

571A Hansa Rose, $17.50

R. r.* 'Scabrosa'** 5-6' x same. Harkness intro, UK, 1950. Also called ***R. superba. The epitome of the old-fashioned straight *rugosa* rose with all the excellent *rugosa* qualities to the max. One of the absolute best roses for the edible landscape. Sweetly scented very large single deep pink flowers and huge orange-red hips almost as big as cherry tomatoes. Showy yellow stamens. Recurrent bloomer. It's the perfect *rugosa*. No frills, no bells, no whistles. Just beautiful flowers and large hips. Large dense hedge-forming shrub with glossy green leaves. Good fall foliage color. Extremely hardy and disease resistant. Z3.

572A Scabrosa Rose, $17.50

***R. r.* 'Souvenir de Philemon Cochet'** 4-5' x same. Sport of *rugosa* hybrid Blanc Double de Coubert. France, 1899. Similar to parent except for very double blooms. Highly fragrant large pure white flowers have the faintest pink in the center when opening. Repeat bloomer. Dark green foliage and no hips. Doesn't hold up long in a vase, but if you bring this rose inside, the incredible scent will fill the room. One of the most fragrant in our antique rose trials. Shrub is vigorous but contained. Z4.

573A Souvenir de Philemon Cochet Rose, $17.50

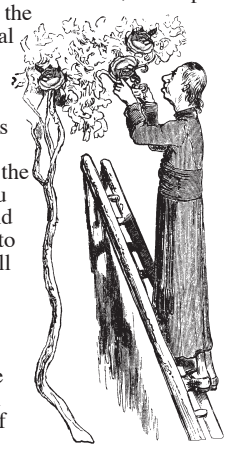
***R. virginiana* 'Above and Beyond'** 10-14' x 5-7' *R. virginiana* hybrid by Dr. David Zlesak, U of WI. First Editions intro, 2015. The climbing rose northerners have been waiting for! Double 3" apricot blooms on tall canes open bright and gradually lighten. Loose petals hug a crown of gold stamens. Repeat blooms from summer until frost. Canes are hardy, pliable and vigorous, making this a true climber. Can also be pruned to be freestanding. Glossy green foliage is fungal resistant. Zlesak's favorite rose seedling in his 30 years of breeding. His lifelong mentor, Elton Strack, collected in the wild the *R. virginiana* used for the cross. So popular in its catalog debut last year we decided to offer it again. Z3.

574A Above and Beyond Rose, $17.50

Growing Roses

Roses prefer full sun (at least 4–6 hrs per day) and a pH of 6.0–7.0. Space 4–6' apart. They will do well in most well-drained soils with a good amount of organic matter. In locations with poor drainage, add gravel at the bottom of the planting hole, or build in drainage. Pick a site with good air flow, but avoid sites with cold northwest winds. Avoid competition with tree roots.

Plant roses as early as soil can be worked. Most roses' roots don't spread beyond the original hole, so dig a bushel-sized hole, as deep as 2' or more. We recommend lots of rotten hay in the bottom of the planting hole. Mix soil with liberal quantities of well-rotted manure and compost. Add a coffee-can of rock phosphate or bone meal.



Soak roots in water overnight or up to 3 days before planting. Prior to planting, prune roses back to 3 canes, 2–5" tall. Plant them 1" below the level they were in the nursery. Add water as you fill in the hole to puddle it in. Mound soil around branches to prevent them from drying out, and to encourage buds to sprout. As the buds open, pull back the soil to the correct level.

Shrub roses and climbers will require little pruning in later years. Any pruning should wait until after the forsythia bloom. Remove dead or broken branches, and periodically cut out the oldest wood. Keep roses well mulched to retain moisture and reduce weeds. Add 2 shovelfuls of composted manure to each crown in late fall.

Willow *Salix* spp. The genus *Salix* comprises hundreds of different species of plants most commonly called willows but sometimes called Osier or Sallow. Willows grow all over the world. Some, like the weeping willow, are towering specimens. Others are short scrubby bushes—willows growing in the arctic can be 100 years old but only 2' tall! Uses include ornamental landscaping, shade, basket-making, erosion control, timber, fuel and medicine. All parts, especially the bark, contain salicin, used for relief of pain and fever for hundreds, or even thousands, of years. Aspirin is a synthetic analog of salicin. Willows feed local wildlife, insects and birds. We plant them near the orchard to provide early season forage for our native pollinators. All prefer sun and loamy wet soils, but are adaptable, easily transplanted and fast growing. All are **ME Grown.** (1-2')

***S. alba* 'Britzensis' Coral Bark Willow** 15-30' x 12-15' Späeth intro, Britz, Germany, 1878. Also called *S. a.* var. *vitellina* 'Britzensis'. Fast-growing shrubby tree with highly ornamental red bark that starts yellow and graduates to coral. Especially splendid in the snowy winter landscape. Recommended for filling the winter flower vase. No water: just set the dormant branches in the vase and enjoy. The deep red stems will dry to a rusty red. The color is most striking on new growth, so give it an annual spring pruning or even cut it right to the ground. Every spring you'll get new 5–10' red stems. Typically narrow Salix leaves. Originally raised from seed by the famous nurseryman Ludwig Späeth whose lilac is one of the all-time favorites. Likes water, adaptable to a wide range of soils and conditions. Full sun to light shade. Z2.

578A Coral Bark Willow, $13.50

***S. caprea* Goat Willow** 12-25' x 12-15' A fancy European version of our common native pussy willow, *S. discolor*. One of the first signs of spring. On a dreary cold day during mud season, the light of an overcast sky makes the newly emerging catkins look like diamonds in the grey landscape. Cut early spring branches and put in a vase, no water needed. Recommended as a companion plant in the orchard, an excellent source of early spring pollen for winter-weary bees. Keep it pruned low in order to better reach—and enjoy!—the beautiful new stems in springtime. Prefers woodland edges and lowlands, but adaptable. Full sun. Native to the U.K. but long naturalized in much of Europe. Z4.

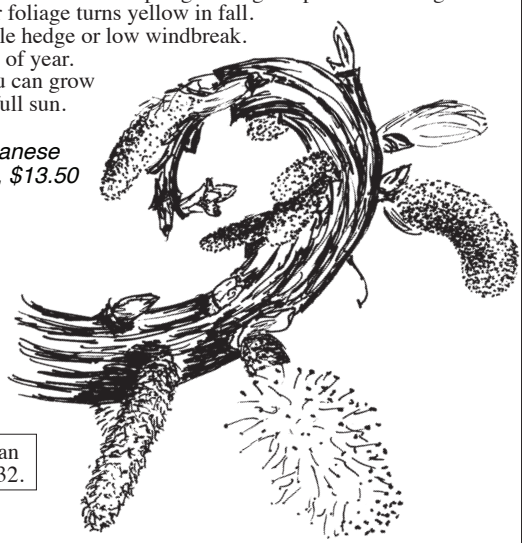
579A Goat Pussy Willow, $13.50

***S. gracilistyla* 'Melanostachys' Black Pussy Willow** 6-10' x same. Very attractive unique fast-growing plant for wetland areas. Deep purple-black male catkins in early spring; cut branches are marvelous for the dining table or kitchen windowsill. The rather short foliage emerges orange and then turns a deep green. Stems turn a rich purple-black in winter. Attractive dark colors all year. Winner of Royal Horticulture Society's Award of Garden Merit. Prune in summer or fall. Adaptable. Prefers moist soil but will tolerate dry as well. Native to eastern Asia. Z4.

580A Black Pussy Willow, $13.50

***S. sachalinensis* 'Sekka' Japanese Fantail Willow** 10-15' x same or wider. Male clone, Japan, before 1700. Fantastic wide dense spreading disheveled shrub with highly ornamental branches that are flat and often curled near the branch tip like the neck of a violin. We cut the reddish-golden surreal stems in winter for arrangements: they look great in the vase for years. Yellow catkins in the spring make good pollinator forage. Glossy green summer foliage turns yellow in fall. Makes an impenetrable hedge or low windbreak. Trim it back any time of year. Highly adaptable; you can grow it anywhere. Prefers full sun. Native to Japan. Z4.

581A Sekka Japanese Fantail Willow, $13.50



Weeping willow can be found on page 32.

Elderberry *Sambucus* spp. 6-12' x same. Elderberry trees appear in myths from days of yore, thought to possess magical and protective powers. Dangling clusters of edible purple-black berries ripen in late summer on this broad vigorous multi-stemmed shrub. The fruit is highly nutritious and medicinal. A century ago, everyone's grandmother knew how to make the perfect elderberry pie. Recipes for jam could be found in all the old farm cookbooks. Elderberries are making a big comeback as folks rediscover the scrumptiousness of elderberry jelly, cordial, elixir and wine. The large creamy-white flower clusters, or cymes, that cover the shrub in early summer make delicious fritters. Dry them for a fragrant wintertime cold-and-flu remedy tea. For centuries, humans have used this plant's medicinal qualities to treat a wide range of ailments and to boost the immune system. Hippocrates is said to have called the elder tree his "medicine chest." Birds love the fruit, and the blossoms attract beneficial insects and pollinators.

Note: Cooking elderberries is essential to breaking down toxic cyanide-inducing glycosides in the seeds. Not for fresh eating.

This year we are offering the European elderberry, *S. nigra*, in addition to our native *S. canadensis*. *Nigra* is more tender than *canadensis*, but ours in Zone 4 seem to be almost as hardy as the American elders.

Elderberries are low-maintenance and easy to grow. With a little attention, they will provide strong yields of fruit for several decades. **Considered self-fertile but multiple varieties or or even multiple species will improve fruit set**. All are **ME Grown.** (1-3')

***S. canadensis* 'Adams No. 1'** NY Ag Exp Stn intro, 1926. Selected in 1915 from the wild by William Adams in Union Springs, NY, and sent to Geneva where it was introduced 11 years later. Large berries and fruit clusters make for easy and fast picking. If you're heading to a potluck and need to make a pie in a pinch, Adams is the shrub you want. Very large vigorous strong productive bush. Typically 7–8' tall. Z3.

582A Adams No. 1 Elderberry, $18.00

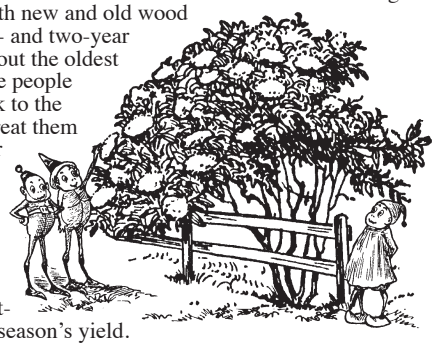
***S. c.* 'Bob Gordon'** 6-8' x same. MU intro, 2011. Wild seedling selected by Robert Gordon in Osceola, MO. Large clusters of large dark berries. High Brix levels makes this elderberry a good one for winemakers. Upright, slightly spreading habit. Z4.

583A Bob Gordon Elderberry, $18.00

Growing Elderberries

Elderberries are best grown in rich soil with a pH of 5.5–7.5 but are adaptable to a variety of soil types. They love compost! Add compost to the hole at the time of planting and every spring after that. They prefer moist soil but will tolerate poor drainage and temporary flooding. On the St. Croix River, we've harvested elderberries from the canoe! Plant in full sun. Susceptible to borers when weeds are allowed to crowd the base. Control weeds by mulching with a thick layer of hay, leaves or woodchips. Aggressive weeding around elders will disturb their shallow roots and risk injury to the plant.

Pruning for *S. canadensis*: in spring, while plant is still dormant, prune away any weak, broken or dead canes. New canes will emerge. Fruit is produced on both new and old wood but best sets are on one- and two-year canes. Periodically cut out the oldest wood. Alternately, some people prefer to cut elders back to the ground each year and treat them as perennials. The latter plants will produce fewer but larger fruit clusters.



S. nigra fruits on second-year wood. It's ok to prune in spring, but be sure to leave first-year canes for the next season's yield.

***S. c.* 'Goodbarn'** Chance seedling. Elwyn Meader intro, Rochester, NH. Professor Meader named this Goodbarn because it was the good elderberry growing under the eaves of his barn in New Hampshire. Another of the many fine plants Elwyn's son John has brought to our attention. Thanks, John! Hardy, vigorous with apparent self-fertility. It blooms heavily and produces large crops annually. Lower grower, maybe to 5'. Z3.

584A Goodbarn Elderberry, $18.00

***S. c.* 'Johns'** Up to 10' tall. (Adams No. 1 or Adams No. 2 x open-pollinated) Nova Scotia Exp Stn, 1954. Very vigorous. One particular cutting in our garden grew 5' in one summer and had berries and flowers at the same time late into the summer. Z3.

585A Johns Elderberry, $18.00

***S. c.* 'Nova'** 6-8' x same. Open-pollinated seedling of Adams No. 2. EL Eaton intro, AgCanada Res Stn, Kentville, Nova Scotia, 1959. Selected in 1946 and named for its province of origin. Large sweet fruit matures early and uniformly. Suckers easily. Z3.

587A Nova Elderberry, $18.00

***S. c.* 'Wyldewood'** 6-12' x same. MU/MSU, by PL Byers and AL Thomas. Selected from wild bushes in 1995, introduced in 2010. A vigorous consistently high-yielding elderberry cultivar, popular in the Midwest. Some trials are showing it produces as much as Adams, if not more, and ripens a little bit later. Ours are lush and thriving. Z3.

589A Wyldewood Elderberry, $18.00

***S. c.* 'York'** (Ezyoff x Adams No. 2) NY Ag Exp Stn, 1964. An old reliable, considered by some to be the largest-fruited and heaviest-bearing cultivar. In most of our Maine trials, this shrub is more compact than Adams, topping out at 4–5', but we've seen a 10' specimen growing on a compost pile. Persistent and will bear well for many years alongside other varieties. Heavy clusters of mildly tart large berries that ripen after Adams. Z3.

590A York Elderberry, $18.00

***S. canadensis* Seedlings** Each one is grown from cold-hardy seed and will be a totally unique plant. Some of our best plants grew from batches of such seedlings. Z3.

591A Elderberry Seedling, $17.50
591B Elderberry Seedlings, bundle of 5, $75.00

Before cooking, remove elderberries from their stems. This can be done while the berries are fresh or frozen. We pick and pack entire panicles of berries into plastic bags and put the bags in the freezer. Once frozen, remove and whack the bag with a stick. The berries will easily fall from the stems. Snip a hole in the corner of the bag and the berries will roll out. Freezing will not damage the fruit.

Elderberry Syrup

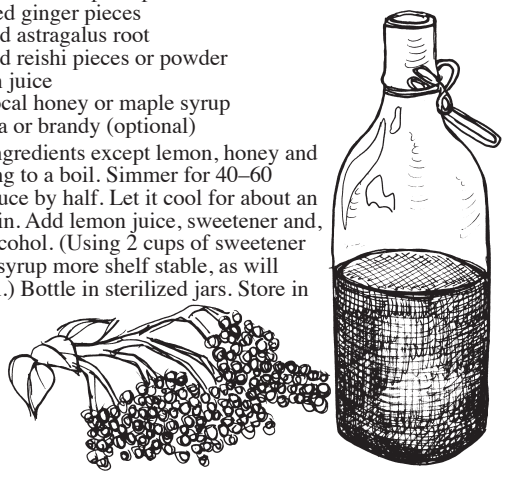
Whether fighting off the flu or just trying to stay healthy through the winter cold season, elderberry syrup is good to have around. The nutritional berries are packed with vitamins, minerals, anthocyanins and polyphenols, which boost the immune system, improve cardiovascular health and help prevent cancer. Syrup can be taken by the yummy spoonful or added to hot water or tea. Thanks to Kathi Langelier at Herbal Revolution Farm and Apothecary for sharing her recipe!

Note: Use only *Sambucus canadensis* and *S. nigra* for making syrup. Red elderberries, *S. pubens*, should be avoided for edible use.

Elderberry Syrup with Mushroom and Root

4 cups elderberries
2–4 tsp cinnamon chips or powder
2–3 tsp dried ginger pieces
2 Tbsp dried astragalus root
2 Tbsp dried reishi pieces or powder
1 tsp lemon juice
1–2 cups local honey or maple syrup
1 cup vodka or brandy (optional)

Combine all ingredients except lemon, honey and vodka and bring to a boil. Simmer for 40–60 minutes to reduce by half. Let it cool for about an hour, then strain. Add lemon juice, sweetener and, if you wish, alcohol. (Using 2 cups of sweetener will make the syrup more shelf stable, as will adding alcohol.) Bottle in sterilized jars. Store in fridge.



***S. nigra* 'Korsor'** 6-8' x 2-5' Danish cultivar bred for heavy fruit clusters and excellent juicing quality. *Nigra* is the official medicinal species used in Europe. The berries are extremely high in immune-boosting anthocyanins. You can use them in all of the same wonderful ways you would use the *canadensis* species. Leaves are broader and darker green than other elderberries and the plant gives off a musky scent when you brush past it. Upright habit, extremely vigorous. Native to Europe. Z4/5.

592A Korsor Elderberry, $18.00

***S. n.* 'Samyl'** 5-8' x 2-5' Res Ctr for Hort intro, Aarslev, Denmark. Selected for juice production based on very high anthocyanin content and sweet flavor. Strong upright shoots yield dark glossy berries. Z4/5.

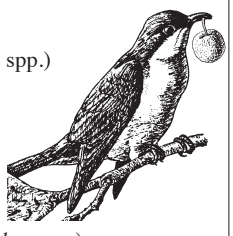
594A Samyl Elderberry, $18.00

Berries for Winter

Eating plenty of antioxidant-rich berries through the long cold winter decreases chances of getting sick. There are countless ways to preserve herbal remedies and nutrient-dense berries we grow around our homes. In summer, cherries get pitted and placed on drying racks for making granola and oatmeal. Elderberries and lingonberries can be frozen to make tasty healthful syrups throughout the winter. Haws boil down to a sweet mild-tasting syrup that promotes circulation, or are dried for tea. Syrups can be enjoyed by the spoonful, diluted in hot water like tea, or drizzled on yogurt or oats.

Here are a few essentials we like to freeze, dry or process into preserves:

Black Chokeberry (*Aronia melanocarpa*)
Cornelian Cherry (*Cornus mas*)
Bush/ Dwarf Sour/ Nanking Cherries (*Prunus* spp.)
Elderberry (*Sambucus* spp.)
Hardy Kiwi (*Actinidia* spp.)
Hawthorn (*Crataegus* spp.)
Lingonberry (*Vaccinium vitis-idaea*)
Lowbush Blueberry (*Vaccinium angustifolium*)
Mulberry (*Morus* spp.)
Northern Wild Raisin (*Vibernum cassinoides*)
Raspberry/ Black Raspberry/ Blackberry (*Rubus* spp.)
Schisandra (*Schisandra chinensis*)
Strawberry (*Fragaria* x *ananassa*)



Lilac *Syringa* spp. Lilacs have been a fixture in the New England landscape for generations. More often than not, when we find old apple trees, the ancient lilacs are not far away. The large rambling suckering shrubs continue to flourish each spring long after the buildings have disappeared and all that remains of homesteads are the remnants of stone foundations. Why were the lilacs always planted just outside the kitchen door? On cold winter mornings, someone would clean out the wood stove and sprinkle ashes on the icy path to the backhouse. Or maybe the path to the woodshed or the clothesline. Over the years, the earth outside the kitchen door became saturated with lime. Lilacs love alkaline soil.

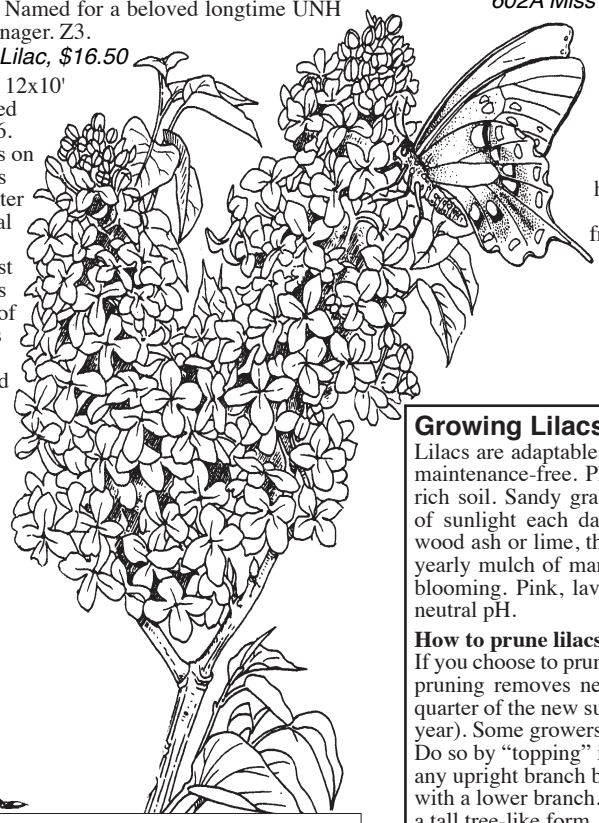
In the landscape, lilacs are excellent alone or in hedges. Deep green glossy heart-shaped foliage looks good from spring through fall. Intensely fragrant blooms in May over a period of several weeks. Hundreds of varieties have been developed over the ages. Flowers range from singles to doubles, pure white to the deepest purple, not to mention pinks and reds and lavenders of every persuasion. Ornamental, edible (frittered flowers à la elderberry), medicinal, and a great Mother's Day gift. (1-3')

***S.* x *prestoniae* 'James Macfarlane'** 8' x 6-10' [(*S.* x *josiflexa* 'Royalty') x unknown) Albert F. Yeager intro, UNH, 1959. True-pink single trumpet-like flowers with a pleasant fragrance that always surprises us wafting across the yard a couple of weeks after the *vulgaris* lilacs are gone by. Blooms in late June, long after the other lilacs have faded. Long large elliptical foliage typical of the Preston hybrids. Upright form. Precocious. Will not sucker. Named for a beloved longtime UNH horticulturalist and greenhouse manager. Z3.

598A James Macfarlane Lilac, $16.50

***S. vulgaris* 'Adelaide Dunbar'** 12x10' Selected by John Dunbar and named for his wife in Rochester, NY, 1916. Fragrant deep-purple double florets on dark stems in mid-spring. Dunbar's extensive lilac plantings in Rochester became well known in the botanical world. The city's Highland Park Botanical Gardens continues to host a long-standing Lilac Festival. This variety was selected from a group of about 75 open-pollinated seedlings that sprang up from Dunbar's original collection of French hybrid and Lemoine cultivars. Z3.

599A Adelaide Dunbar Lilac, $16.50



***S. v.* Common Purple** 12-15' x same. A mass of medium-light purple blooms every year. A magnificent New England sight for nearly 400 years. When a nursery friend looked out John's living room window and thought he had some fancy new cultivar, he chuckled, "Nope, just the good old common purple." Never disappoints. Suckers freely, the best lilac for a spreading hedge. Z2.

600A Common Purple Lilac, $16.50

***S. v.* 'Katherine Havemeyer'** 10-12' x 10' Victor Lemoine et Fils, Nancy, France, 1922. Fragrant large heavy densely filled double lavender-pink flower clusters. Call it pinkish purple. The darker buds create a two-toned effect. Very beautiful. Large long leaves contrast vividly with the blossoms. Roger Coggenshall, who propagated lilacs for several decades at the Arnold Arboretum and Syringa Plus in Massachusetts, called this one of his favorites. Z3.

601A Katherine Havemeyer Lilac, $16.50

***S. v.* 'Miss Ellen Willmott'** 10x10' Victor Lemoine et Fils, Nancy, France, 1903. Creamy buds and very thick double white blooms. Small clusters of upright panicles are evenly distributed like white polka dots on a green summer shirt. Upright slightly rounded shrub with visible undulating vertical stems. It's not a thick plant: you can see through it. One of the oldest named varieties from one of the most famous of all lilac breeders. Z3.

602A Miss Ellen Willmott Lilac, $16.50

***S. v.* 'President Lincoln'** 10' x same. 'Alba Virginalis' x open-pollinated. John Dunbar intro, Rochester, NY, 1916. Covered with smallish clusters of exceptionally fragrant single light lavender-blue blooms. An absolutely outstanding lilac. Blooms early and quits late. Blue lilacs are rare and Lincoln is blue. A few newer blue cultivars have been introduced, but President Lincoln remains at the top of the heap. Given a chance it will spread from suckers to form a massive shrub. Z3.

603A President Lincoln Lilac, $16.50

Special Plants for Challenging Locations

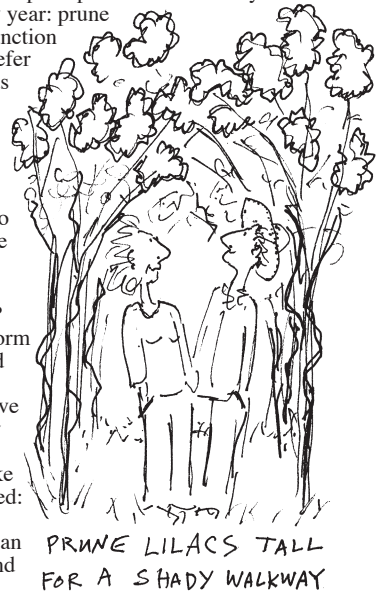
Drought Tolerant:	**Wet Tolerant:**	**Shade:**
Amelanchier	Amelanchier	Black Cohosh
Bearberry	Birch	Bloodroot
Lowbush Blueberry	Black Cohosh	Pagoda Dogwood
Carolina Allspice	Buttonbush	Ferns
Catmint	Highbush Blueberry	Balsam Fir
Cornelian Cherry	Chokeberry	Hazelnut
Chestnut	American Cranberry	Hops
Elm	Dawn Redwood	Hosta
Grape	Redosier	Jack-in-the-Pulpit
Hawthorn	Elderberry	Lady's Mantle
Heather	Elm	Sugar Maple
Hens & Chicks	Ferns	White Pine
Lavender	Blue Flag Iris	Pulmonaria
Lilac	Marshmallow	Spicebush
Lingonberry	Northern Wild Raisin	Wintergreen
Ninebark	Spicebush	Witch Hazel
Peashrub	Willows	
Beach Plum	Winterberry	
Rosa Rugosa	Witch Hazel	
Spruce		

Growing Lilacs

Lilacs are adaptable, easy to grow, nearly indestructible and practically maintenance-free. Plant them in a well-drained location in moderately rich soil. Sandy gravelly loam is perfect. They prefer at least 6 hours of sunlight each day. We suggest planting them with a shovelful of wood ash or lime, then add another shovelful of either every 3 years. A yearly mulch of manure or compost will encourage spectacular annual blooming. Pink, lavender and blue lilacs color up best in soil with a neutral pH.

How to prune lilacs

If you choose to prune your lilacs, do it right after flowering. Late-season pruning removes next year's buds. As the plant matures, prune off a quarter of the new suckers and the oldest growth (a few main stems each year). Some growers prefer to keep the plant low and bushy. Do so by "topping" it off every year: prune any upright branch back to a junction with a lower branch. Others prefer a tall tree-like form. Our friends Philippe and Danielle have let theirs soar to 8' or more, removing the lower branches and creating a magical walkway in the process. Lilacs are more than willing to cater to your own personal vision. Have fun! No need to cut off spent flowers except for appearance.



Why isn't my lilac blooming?

Too shady: lilacs need sun to form blossoms. Over-pruned: pruned too late, removed buds. Also, some plants respond to excessive pruning by putting their energy into vegetative growth instead of flowering. Too wet: lilacs like well-drained soil. Over-fertilized: lilacs will bloom well without assistance. Too much fertility can lead more vegetative growth and inhibit bud formation.

***Viburnum cassinoides* Northern Wild Raisin** 5-6' x same. Also called **Appalachian Tea**, **Raisinberry** or **Witherod**. Rounded arching dense suckering native shrub. Creamy white flowers with yellow stamens on 2–5" flat-topped cymes bloom from spring to early summer. Highly desired for its multicolored edible fruit, which turns from green to pink to red to blue before finally turning black in September. One fruiting cluster may feature several colors at the same time. Best eaten when nearly dried out on the branch, if you can get to it before the birds! Foliage, once used in tea, emerges bronze or purple tinted, turning dark green when mature and then orange-red, dark crimson and purple in fall. *Withe* is from the old English meaning a tough, flexible twig used to bind things together. Witherod is pronounced *withe*-rod, not *wither*-rod. Good as a specimen but **plant more than one for fruit**. Sun to partial shade. Very rugged: adapts to dry or wet sites. Native to eastern North America. Z3. **ME Grown.** (1-3')

606A Northern Wild Raisin, $16.50

***V. lentago* Nannyberry** 15-20' x 10-12' Also called **Sheepberry** or **Sweet Viburnum**. Large open vase-shaped suckering shrub with edible oval berries that turn from green to yellow to red to blue-black raisins that persist in winter and are popular with the birds. Large flat-topped clusters of fragrant creamy white flowers are a common sight in spring in the Maine landscape. Shiny foliage, purplish red in fall. Medicinal bark and leaves. Recommended for naturalizing, bird and wildlife habitat, screens and borders. Prefers moist well-drained average soils but adaptable to poor, compacted or dry soils. Sun or shade. **Self-fertile, but plant two or more for better pollination** and fruit production. Native to eastern U.S. and Canada. Z2. (1-3')

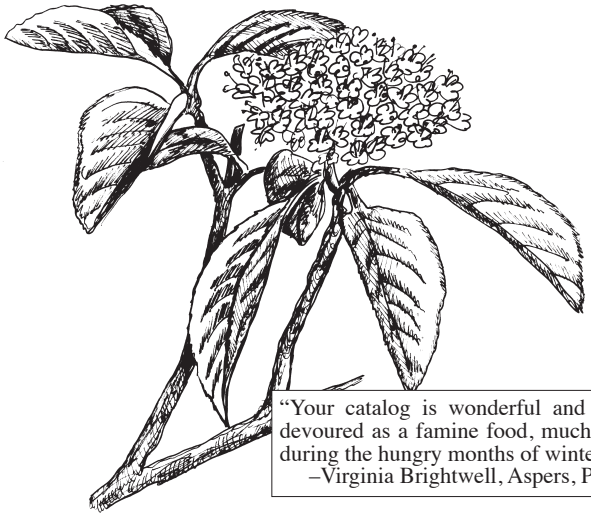
607A Nannyberry, $15.00

***V. plicatum* var. *tomentosum* 'Shasta' Doublefile Viburnum** 6-10' x 9-12'. US Nat'l Arboretum intro, Don Egolf, 1979. Rounded shrub with distinctly horizontal stepped branching habit, frosted with spectacular parallel rows of 4–6" pure white inflorescences that float above the foliage in spring. Lacecap flowers are absolutely magnificent in bloom though not fragrant. Dirr says, "This excellent plant is now embedded in the psyche of American gardens." For good reason. We saw outstanding specimens in the Brooklyn Botanic Gardens last May. Their beauty drew us across the lawns like moths to a pure white flame. Serrated deeply veined dark green foliage turns red-purple in fall. Impressive large red fruit clusters turn black toward summer's end and are relished by birds. Prefers moist well-drained loamy slightly acidic mulched soil, sun or light shade. **Plant multiples for best fruit set.** Native to Asia. Z4/5. (1-3')

609A Shasta Doublefile Viburnum, $16.00

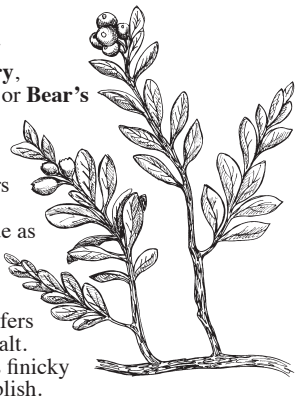
***V. prunifolium* Black Haw** 12-15' x 8-12'. Creamy white 2–4" cymes bloom in early spring while leaves are still opening, attracting dozens of different pollinators. Lustrous green leaves, narrow-to-oval with pointed tips, turn to bronze-red in fall. Dark bluish-black 1/2" fruits with a waxy bloom form hanging clusters through fall, in a similar way to highbush cranberry. Long used as a food source, eaten raw or put away in preserves. Rounded arching shrub stiffly branched, reminiscent of a wild hawthorn or crabapple. Suckering nature allows it to form a dense colony or hedge, but it can also be pruned as a nice specimen that can reach 20–30' in height. Transplants easily and is adaptable to many soil types, moist to dry, sun to shade. **Two or more plants are required for fruit.** Appears to be disease and pest free. Native to eastern U.S. Z3. **ME Grown.** (1-3')

610A Black Haw, $15.00
610B Black Haw, bundle of 5, $65.00



"Your catalog is wonderful and eagerly devoured as a famine food, much needed during the hungry months of winter."
–Virginia Brightwell, Aspers, PA

Groundcovers



***Arctostaphylos uva-ursi* Bearberry**
Also called **Kinnikinick**, **Hog Cranberry**, **Mealberry**, **Sandberry**, **Mountain Box** or **Bear's Grape**. Delicate low-growing beautiful glossy evergreen spreading groundcover. Beautiful in rock gardens. One plant can spread to 15'. Small pinkish-white flowers in spring. Leaves are diuretic, astringent and antibacterial. Tea may also have value as a general tonic. Small bright red drupe-type berries color up in late summer and persist into winter. Too insipid for fresh eating, but good fried with fish. Prefers poor sandy infertile acid soils, tolerates salt. Can be sensitive to root disturbance, thus finicky in transplanting and may be slow to establish. Set plants 1–2' apart. No need ever to prune or fertilize. Sun or partial shade. Native to North America and Eurasia. Self-pollinating. Z2. **ME Grown.** (potted transplants)

621A Bearberry, $18.00

***Calluna vulgaris* Heather** Magical, mythical and medicinal evergreen groundcover features a spread of flowers and foliage that change color throughout the season. Heathers are our guilty pleasures—for every two you buy, we buy like 20 for our own gardens! Each year we vary our selection but always offer the hardiest varieties proven to flourish in northern climates. Revered in the British Isles, important medicinally in teas, honey, liniments and ointments. First fermented a few thousand years ago, used in gruit, ale, and might be the original ingredient for the first whiskey. Branches used in thatching, bedding, basketry, rope and broom-making. Flowers attract bees, butterflies and moths, especially when planted in masses. Recommended for rock gardens and edges of paths—or for opening the portals to the fairy world.

Requires acidic soil and full sun to partial shade. Plant about 18" apart each way and let it spread. Mix peat into the soil to lower the pH if necessary—see planting instructions for cranberries and blueberries. We recommend pine needles as an acidic year-round mulch. Does not like high fertility or wet spots. Full sun and windy exposures intensify their colors. Shear every April for best bloom. Native to the dry forests, heaths and bare grounds of Britain and Ireland. More recently naturalized in North America. Z4. (4" pots)

***C. v.* 'Con Brio'** 12-14" x 16-18"
Upright rust-colored stems grow bright yellow-green foliage as they return to life in April and May. Tiny white buds emerge mid-July and open to ruby flowers in August. Blooms into September and eventually foliage turns to bronze late fall through winter.

L622A Con Brio Heather, $12.00

***C. v.* 'Jan Dekker'** 4-6" x 10-12"
Soft downy grey-green foliage with mauve flowers Aug.-Sept. Low and spreading habit. We love how the foliage contrasts with the other heathers in our garden. We planted some this year and it is already a favorite . The Heather Society calls it "one of the best grey heathers."

L623A Jan Dekker Heather, $12.00

Shearing Heather

Heathers need to be pruned back every April or they will become woody and bare in just a few short years. The stems will not produce new growth where they flowered the previous season. Once these bare areas get leggy, they will no longer produce foliage at the base. If the plant is cut back to a woody base, no new growth will occur and your heather will be on a downward spiral. If you're not up for shearing, heathers might not be for you.

Shearing can be done with regular clippers like Felcos or with larger shears. Just roughly cut the stems below where they flowered the season before, leaving a few inches of foliage at the base. If done every year it should look like a little mound with a haircut. Next thing you know, bright new growth will start emerging. Shearing not only makes the plants look better but also makes them stronger and more resistant to fungal problems.

More Groundcovers

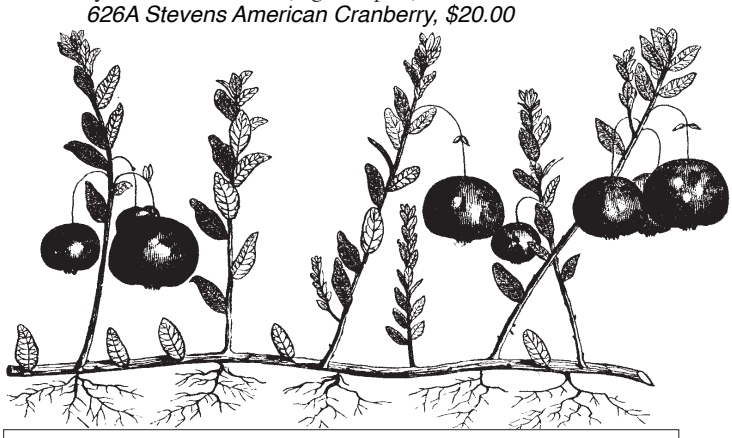
Gaultheria procumbens **Wintergreen** Also called **Eastern Teaberry**. Herbaceous aromatic rhizomatous evergreen groundcover native to the woodlands of eastern North America. Glossy dark green elliptic-to-oblong leaves form on erect stems. Nodding bell-shaped waxy white flowers bloom from the leaf axils in June. Flowers give way to vivid red berries. Leaves will take on beautiful burgundy shades in the fall. Excellent winter food source for free-range chickens, partridge, turkeys, and some two- and four-legged mammals. Fragrant leaves contain methyl salicylate, a potent external anti-inflammatory, and can be used to make a poultice or massage oil to ease arthritic pain and sore muscles. Designated Maine's State Herb in 1999. Plant 16" apart in dappled shade in moist but not boggy woodland soil. Grows 6–10" tall with a 1–3' spread. **Self-pollinating.** Z3. (nursery-propagated 3½" plugs)

L625A Wintergreen, $8.00

L625B Wintergreen, bundle of 3, $20.00

Vaccinium macrocarpon **'Stevens' American Cranberry** This is the cranberry of holiday sauces, bread and jelly. Dense low lustrous evergreen groundcover, reddish purple in fall and loaded with large red berries. Once established, makes a beautiful and edible "lawn." Handpick or rake like blueberries before hard frost. Use fresh, freeze or store in a cool basement or root cellar for months. Bitter and alkalizing effects make it one of the most common remedies for bladder infections. An excellent source of vitamin C. Annually flooded for frost protection and harvesting convenience in commercial operations, but not necessary in home plots. Adaptable to everything from bogs to dry rocky outcroppings. Self-pollinating. Native to northeastern U.S. and Canada. Comes in a bushy 6" clump which can be carefully divided or planted as a whole and divided in future years. Z2. **ME Grown.** (1-gallon pots)

626A Stevens American Cranberry, $20.00



Growing American Cranberries

American Cranberries are shallow-rooted and require light acid soil (pH 4.0–5.5), preferably cool, moist and high in organic matter, similar to soil in which blueberries grow well. Will grow in dry locations. Plant them in spring once the ground can be worked in a bed or in a naturalized setting.

We no longer recommend mixing in sulfur to acidify the soil. Sulfur is slow-acting and can be added to soil surface in subsequent years if necessary. Mixing it into the soil can damage tender young roots.

For a 5x5' bed:

For acidic "blueberry" soils: If you're fortunate to have a site where blueberries grow naturally, clear a spot of vegetation, cultivate the soil, add some peat and sand if you like, and you're ready to plant.

For sandy soils: Remove soil 10" deep and mix soil with 2 bales of damp peat moss. Replace mixture in bed and cover with 2" of sand.

For clay or silty soils: Remove soil 10" deep and place it around the edge of the bed as a berm. Replace the soil with a 50-50 mix of soil and peat (about 2 bales of peat). Cover with an additional 2" of sand. Plant cranberries 12" apart, so the roots are in the peat and the sand is covering the lower portion of the stems.

Remove all weeds as needed. Water the plants weekly so that the peat is moist but not saturated. Add nitrogen at a rate of ⅓–1 lb (or 20–50 lbs of manure) per 100 sq feet each year. No pesticides should be necessary.

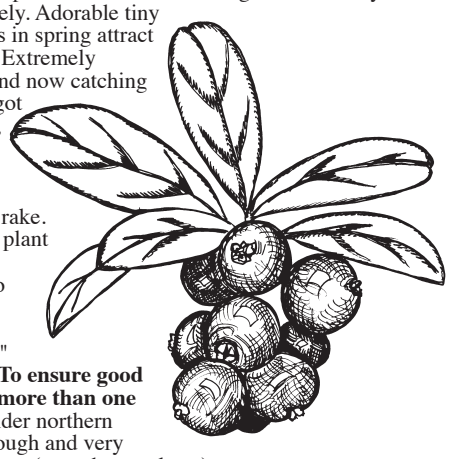
Handpick before first hard frost when berries are red.

In late fall, cover the bed to protect the plants from the drying effect of winter winds. Use a mulch of leaves or pine needles; or cover with polyester row cover and then clear plastic; or cover with row cover and then plenty of leaves. You may want to bait for mice under row cover or plastic.

Remove mulch in early April. Protect flower buds from 28° frosts by covering with plastic during frosty nights.

Every two years partially cover the plants with a ½–1" layer of sand in spring before growth begins. This will help produce more berries and keep weeds down.

Lingonberry ***V. vitis-idaea*** Also called **Foxberry**, **Cowberry**, **Mountain Cranberry**. Vigorous shallow-rooted spreading groundcover is related to blueberries and cranberries. Bright red glossy nutritious fruits are slightly smaller than lowbush blueberries. Tart until dead ripe, then has excellent flavor, richer and less astringent than cranberries. Can be eaten fresh but primarily used in sauces, jams, syrups, fruit leathers, juices and wines. Stores up to 2 months in the fridge. Small shiny dark green foliage is quite lovely. Adorable tiny bell-shaped white flowers in spring attract a plethora of pollinators. Extremely popular in Scandinavia and now catching on in the U.S. If you've got good soil for blueberries, try these. Ripens in late summer but is best after a frost. Harvest by hand or with a blueberry rake. Will produce 1–2 lbs per plant depending on the variety and can produce for up to 20 years. Prefers full sun and poor sandy acid (pH 4.5–5) soils. Plant 12–18" apart in rows 3–4' apart. **To ensure good fruit production, plant more than one variety.** Native to the colder northern hemisphere. Incredibly tough and very hardy. Z2. All are **ME Grown.** (potted transplants)



V. v.-i. **'Balsgard'** 12-15" tall. Swedish University of Ag Sciences intro, Balsgard, Sweden, 2004. Bred for high yields of very large deep-red berries. This vigorous upright slow grower is less sprawling than other lingons. May fruit twice in one season.

627A Balsgard Lingonberry, $18.00

V. v.-i. **'Erntedank'** Up to 12" tall. Albert Zimmer intro, 1975. Collected in a wild heath near Uchte, Germany. Produces heavy yields of small- or medium-sized berries.

628A Erntedank Lingonberry, $18.00

V. v.-i. **'Erntesegen'** 12-15" Also collected by Zimmer from a wild German heath. High-yielding plant produces very large berries.

629A Erntesegen Lingonberry, $18.00

V. v.-i. **'Linnea'** 5-9" Swedish U intro, 1999. Newer cultivar selected from an open-pollinated seedling of Sanna, a wild strain. Strong producer of medium-sized berries.

630A Linnea Lingonberry, $18.00

V. v.-i. **Magenta** 12-15" Swedish U of Ag Sciences intro. Vigorous cultivar produces large purplish-red berries. Selected for high yields.

631A Magenta Lingonberry, $18.00

V. v.-i. **'Red Pearl'** 12-18" Elden Stang intro, Holland, 1983. Very adaptable, produces large berries. Somewhat lower yielding, but standard in commercial production as an excellent pollinator. May bloom twice in one season.

632A Red Pearl Lingonberry, $18.00

V. v.-i. **'Red Sunset'** 8-15" Hartmann's Plant Co intro. Medium-to-large firm flavorful berries. Considered one of the most vigorous cultivars.

633A Red Sunset Lingonberry, $18.00

V. v.-i. **'Regal'** 4-8" WI-108, Univ of WI intro, Madison, WI, 1994. From open-pollinated seed collected in southwest Finland. Produces firm small-to-medium berries with good flavor. May bloom twice in one season.

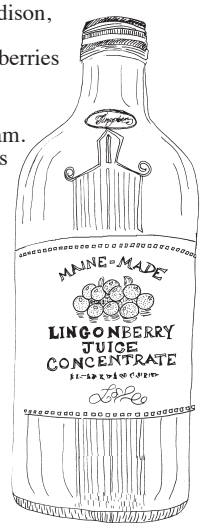
634A Regal Lingonberry, $18.00

V. v.-i. **'Ruby'** 12" Also from the Swedish U program. Medium-sized light red berries. Moderately vigorous with lots of spreading rhizomes.

635A Ruby Lingonberry, $18.00

V. v.-i. **'Sussi'** 4-8" Sometimes spelled 'Susi'. Patented by the Swedish Ag Dept, 1985. Moderate yields of medium-to-large berries. Great pollinator for other varieties.

636A Sussi Lingonberry, $18.00



Lingonberry Collection Get your patch going and boost pollination with this collection of 5 different varieties, each individually labeled.

637A Lingonberry Collection, bundle of 5, $80.00

Garden Roots

No garden is complete without the classic triumvirate of Horseradish, Asparagus and Rhubarb!

***Armoracia rusticana* 'Big Top' Horseradish**
Exceptionally vigorous perennial with large dock-like leaves and spicy hot roots, savored for centuries for their culinary and medicinal qualities. Horseradish tea is said to be an effective control for brown rot on stone fruits. Deep taproot with numerous shallow runner roots. Choose carefully where you plant it because you may never get it all out. Even the tiniest root piece will produce a new plant. Leaves can be cooked as greens. Roots are traditionally harvested in the fall, but you can dig them anytime. Roots keep 3–4 months in the fridge. To use as a stimulant, grate the fresh roots and mix with a little lemon juice or apple-cider vinegar and refrigerate. Use soon, then make more. Big Top is an especially disease-resistant variety. Prefers moist rich soil. Plant with the slanted cut down and the flat side up, or just toss them in and watch them grow. Native to northern Europe. Z3. (roots)

L640A Big Top Horseradish, bundle of 5, $18.00

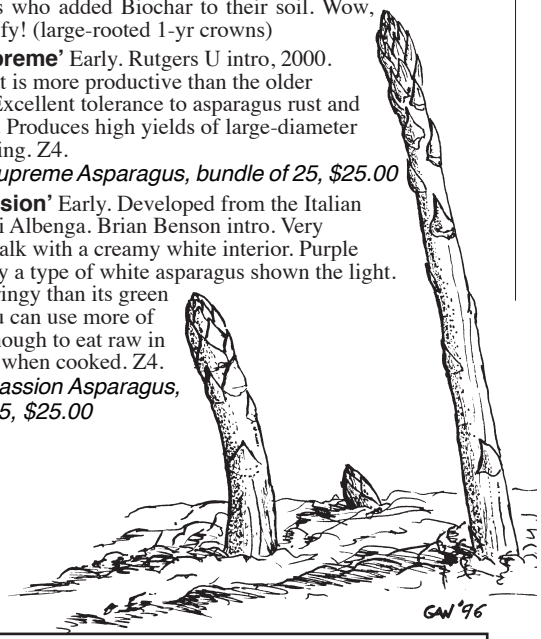
***Asparagus officinalis* Asparagus** A spring staple for millennia, may have originated around the Mediterranean Sea, perhaps in Asia Minor. The pharaohs, Greeks and Romans were all aware of its highly nutritious qualities and delectable flavor. The earliest known American horticultural advertisement, from March 1719, is for "English Sparrow-grass Roots." Uncut shoots become a light green feathery hedge, a beautiful backdrop to a flower garden. Honeybees love the dainty dangling flowers of asparagus. Occasionally non–spear-forming females will show up in a planting. Leave them be or rogue them out as you wish. John visited friends who added Biochar to their soil. Wow, were their roots beefy! (large-rooted 1-yr crowns)

***A. o.* 'Jersey Supreme'** Early. Rutgers U intro, 2000. All-male hybrid that is more productive than the older all-male varieties. Excellent tolerance to asparagus rust and fusarium crown rot. Produces high yields of large-diameter tender spears in spring. Z4.

L641A Jersey Supreme Asparagus, bundle of 25, $25.00

***A. o.* 'Purple Passion'** Early. Developed from the Italian heirloom Violetto di Albenga. Brian Benson intro. Very large deep purple stalk with a creamy white interior. Purple asparagus is actually a type of white asparagus shown the light. Sweeter and less stringy than its green counterparts, so you can use more of the spear. Tender enough to eat raw in salads. Turns green when cooked. Z4.

L642A Purple Passion Asparagus, bundle of 25, $25.00



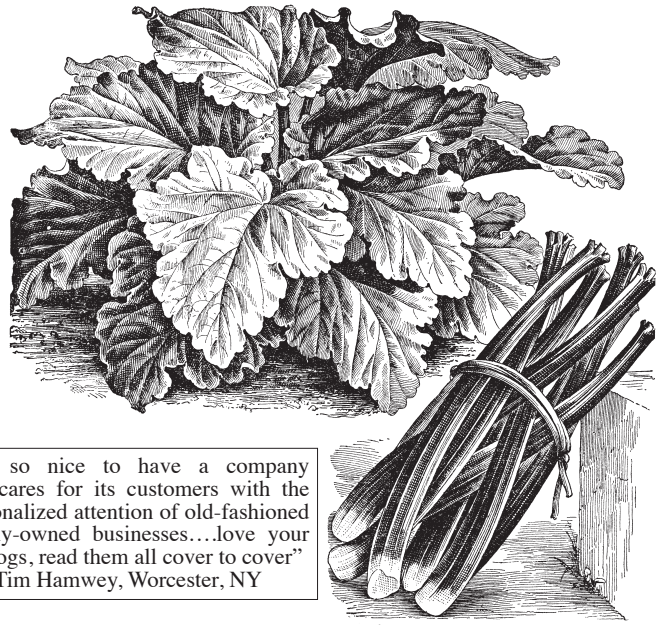
Growing Asparagus

Plant when you receive your order or as soon as the ground can be worked. Requires fertile soil with pH 6.8–7.2 and high levels of phosphorus. Plant 14–18" apart, 6–10" deep, in trenches 4' apart. Or dig your trenches somewhat deeper and fill the bottom with 4" of compost and rotted manure. Lay plants with crown up and cover with 2" of soil. Plants emerge very slowly. As young shoots grow, add soil gradually, just covering the shoots, until the trench is full. In late fall, remove dead stalks and mulch with 3" of manure.

Second summer: Add lime, rock fertilizers and compost as needed. Control weeds but do not injure crowns.

Later years: Same routine but increase fertilizer. Be sure to leave some spears each year to grow stalks that will nourish the roots and give you more spears next year. Keep the bed weed-free and mulched heavily.

Harvest: New research shows that asparagus can be selectively harvested for 2 weeks during the second growing season, for 4 weeks in the third, and a full season thereafter. We recommend caution in harvesting too much too soon. Before the third or fourth season, harvest only the largest shoots from vigorous plants so the young plants can establish themselves.



"It's so nice to have a company that cares for its customers with the personalized attention of old-fashioned family-owned businesses….love your catalogs, read them all cover to cover"
–Tim Hamwey, Worcester, NY

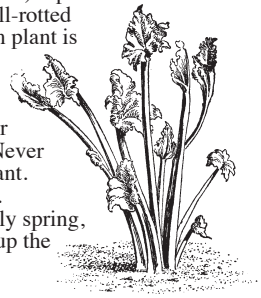
***Rheum rhabarbarum* Rhubarb Seedlings** Seedlings of heirloom variety 'Victoria'. Famous for early summer pie and wine, but also good in sauce, bread, juice, soup or cooked with meat and fish. Rhubarb's clumps of juicy acid leaf stalks were once a staple food. The root is a toning purgative herb traditionally used every spring for thousands of years. There are dozens if not hundreds of rhubarb varieties. May have originated in Siberia and been carried across Asia on the Silk Road to Turkey and then into Europe. Victorian cookbooks included rhubarb compotes, fools and charlottes. Eventually brought to North America through the efforts of Ben Franklin and John Bartram. Low-maintenance, will continue through summer if flower stalks are removed and new leaves allowed to grow. Leaves are not edible.

From our trials, we've learned that rhubarb rarely comes true to type when grown from seed, a fact often undisclosed in the nursery trade. We are offering seedling crowns grown on a local organic farm. There will be variation within the crop. Some stalks will be green with deep red bases and others will be solid green or splashed with red. All are vigorous and delicious, and we've enjoyed them in our pies, wines and sauces. Z2. **ME Grown.** (1 yr crowns)

L643A Rhubarb Seedling, $12.00

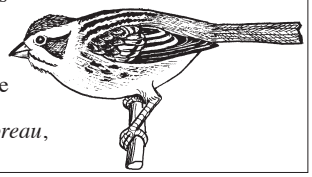
Growing Rhubarb

Plant the top of the root division level with soil surface in well-prepared well-drained rich slightly acid soil (pH 5.5–6.5). Space crowns 2–4' apart in rows 3–4' apart. Add a bushel of well-rotted manure or compost under each crown. When plant is established, fertilize liberally with manure and balanced garden fertilizer or compost every spring, as it's a heavy feeder. Harvest for 4 weeks 2 years after planting. Thereafter you can harvest for 8–10 weeks each year. Never remove more than 2/3 of the stalks from a plant. Water during dry spells for extended season.



Every 10 years or so, divide plants in early spring, leaving about 1/3 of the crown in place. Cut up the remainder into fist-sized pieces and replant.

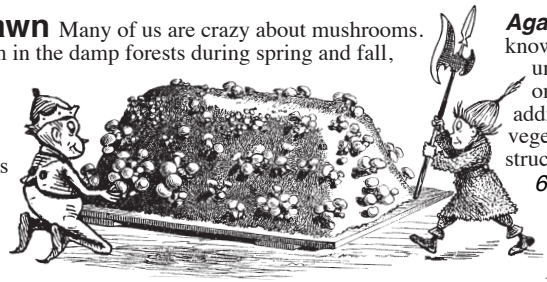
...The snow has fallen so gently that it forms an upright wall on the slenderest twig. The agreeable maze which the branches make is more obvious than ever, and every twig thus laden is as still as the hillside itself. The pitch pines are covered with soft globular masses. The effect of the snow is to press down the forest, confound it with the grasses, and create a new surface to the earth above, shutting us in with it, and we go along somewhat like moles through our galleries. The sight of the pure and trackless road up Blister's Hill, with branches and trees supporting snowy burdens bending over it on each side, would tempt us to begin life again. —Saw a small flock of tree sparrows in the sproutlands under Bartlett's Cliff. Their metallic chip is much like the lisp of the chickadee.—All weeds with their seeds rising dark above the snow are now remarkably conspicuous, which before were not observed against the dark earth.



–from *The Journal of Henry David Thoreau*, December 26, 1853

Mushroom Spawn

Many of us are crazy about mushrooms. We love hunting for them in the damp forests during spring and fall, cooking them, tincturing them or just admiring their mysterious beauty. People have cultivated mushrooms for thousands of years. Around a century ago, American seed catalogs offered mushroom spawn bricks for 30¢ each, right there between the melons and the mustard greens.



We're excited to collaborate with North Spore Mushrooms to offer the following selections for you to get started on your own fungus garden. These products are all Maine-grown without pesticides, on natural substrates. Available as plug spawn and sawdust spawn. All can be refrigerated until you are ready to start growing. We send detailed instructions with your order and you can find more info about each item on our website. We ship mushrooms and tools in April during our regular shipping season. If you're a beginner, consider starting out with a kit.

Mushrooms

For each type, we offer one or more of the following options:

• **Plug Spawn** Small wooden dowels colonized by mushroom mycelium. 50 plugs will inoculate a single 4' long, 4" diameter log. Drill 5/16" holes (or 8.5mm with angle-grinder adapter) into your log, hammer in the plugs and seal the holes with wax. Plugs are an excellent choice for beginners. **Plugs come in bags of 100 or 500.**

• **Sawdust Spawn** Hardwood sawdust colonized by mushroom mycelium. **Each bag contains 5 1/2 lbs of inoculated hardwood sawdust**, enough for about 25 logs. Drill 12mm holes in your logs, pack the sawdust using an inoculation tool and seal with wax. Good for commercial mushroom growers. Note: Wine Cap may be grown on hardwood sawdust in garden paths. Almond Agaricus can be mixed into compost for the garden. All other types are grown on logs.

• **Plug Kits** A kit contains 100 plugs, a small block of wax with dauber, 5/16" drill bit and instructions. Everything but the log, drill and hammer to get you started growing mushrooms. Available for all types except Almond Agaricus, Chicken of the Woods and Wine Cap.

• **Countertop Kits** Grow mushrooms in the kitchen on this inoculated sawdust loaf! Simply slice open the bag, and keep in a humid environment, like beside the sink. Mushrooms should start to produce "pins" within two weeks and will grow quickly. Each kit contains a 5-lb inoculated sawdust block that could produce up to 3 lbs of mushrooms over 2–4 months. Instructions included. Available for Grey Oyster, Golden Oyster, Lion's Mane and Shiitake. The easiest way to get into growing mushrooms. Makes a great gift.

What You'll Need

These mushrooms will fruit best on hardwood logs or sawdust. Instructions will include recommended log species lists. Depending on the product you choose, you will need to provide your own hammer and drill. Here are a few tools to help you get started:

Inoculation Tool A simple hand tool for rapid inoculation of hardwood logs with sawdust spawn. (Not needed for plug spawn.) Use with 12mm drill bit holes for best results.

L649A Inoculation Tool, $40.00

Angle Grinder Adapter Used to attach a drill bit to an angle grinder to increase speed on large projects. Fits 5/8" spindle and takes both 12mm and 8.5mm drill bits.

L650A Angle Grinder Adapter, $50.00

5/16" Drill Bit Low-speed drill bit for small-scale plug-spawn projects.

L651A 5/16" Low-Speed Drill Bit, $7.00

High-Speed Drill Bits Specifically made for log inoculation, designed to clear the hole of sawdust as it drills to a set depth that matches plug length or sawdust dosage. For large projects, we recommend an angle grinder adapter with an 8.5mm bit for plug spawn or a 12mm bit for sawdust.

L652A 8.5 mm High-Speed Drill Bit with Stop Collar, $20.00
L653A 12 mm High-Speed Drill Bit with Stop Collar, $20.00

Sealing Wax A clear food-grade cheese wax ideal for sealing holes in inoculated logs. One pound of wax is enough to seal about 10 logs. Sealing the holes is critical to success because it protects the spawn from drying out and from contamination. Wax is in granular form.

L654A Sealing Wax 1 lb., $6.00

***Agaricus subrufescens* Almond Agaricus** Related to the well-known portabella, crimini and button mushrooms but has its own unique aroma and flavor reminiscent of almonds. The species grows on composted material and thrives in warmer temperatures. A great addition for the home gardener, can be incorporated with compost into vegetable and perennial plantings and does well in season-extension structures. (Available as sawdust spawn only.)

655C Almond Agaricus Sawdust Spawn, $20.00

***Hericium erinaceus* Lion's Mane** Pure white cluster of icicle-like teeth, often found on beech and birch in the wild. When cooked, they have a consistency similar to crab meat. Naturally fruits during cooler months. Due to a slower colonization rate, a higher inoculation rate should be used. Can be grown on many different hardwood species, large- or small-diameter logs.

L656A Lion's Mane Plug Spawn, bag of 100, $15.00
L656B Lion's Mane Plug Spawn, bag of 500, $32.00
656C Lion's Mane Sawdust Spawn, $20.00
L656D Lion's Mane Plug Kit, $25.00
656E Lion's Mane Countertop Kit, $25.00

***Laetiporus sulphureus* Chicken of the Woods** Large bright orange fruit bodies have a texture reminiscent of chicken. Great in soups and stir-fries. Fruits all season from late spring into late fall. Prefers large-diameter oak logs. (Not available in kits.)

L657A Chicken of the Woods Plug Spawn, bag of 100, $15.00
L657B Chicken of the Woods Plug Spawn, bag of 500, $32.00
657C Chicken of the Woods Sawdust Spawn, $20.00

***Lentinula edodes* Shiitake** Brown umbrella-shaped spongy caps, very nutritious and medicinal. Good for drying and reconstituting in winter soups. Meaty texture when cooked. Grows best on oak and maple. Fruits throughout the growing season and responds well to commercial forced-fruiting production methods. This is the Wide Range Shiitake strain.

L658A Shiitake Plug Spawn, bag of 100, $15.00
L658B Shiitake Plug Spawn, bag of 500, $32.00
658C Shiitake Sawdust Spawn, $20.00
L658D Shiitake Plug Kit, $25.00
658E Shiitake Countertop Kit, $25.00

***Pleurotus citrinopileatus* Golden Oyster** Tropical oyster strain that thrives in warm weather. Produces beautiful clusters with yellow caps that are a favorite at farmers markets. Grows well on many different hardwood species including oak, maple and poplar.

L659A Golden Oyster Plug Spawn, bag of 100, $15.00
L659B Golden Oyster Plug Spawn, bag of 500, $32.00
659C Golden Oyster Sawdust Spawn, $20.00
L659D Golden Oyster Plug Kit, $25.00
659E Golden Oyster Countertop Kit, $25.00

***P. ostreatus* Grey Oyster** Very popular fleshy firm edible grey-white oyster-shaped caps often found growing on old dying maple trees. Our most productive oyster strain. Reliable and cold tolerant, fruits prolifically in early spring or late fall. Grows well on many different hardwood species including oak, maple and poplar.

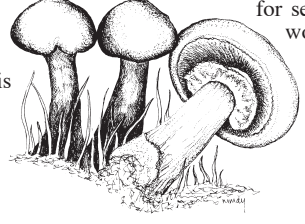
L660A Grey Oyster Plug Spawn, bag of 100, $15.00
L660B Grey Oyster Plug Spawn, bag of 500, $32.00
660C Grey Oyster Sawdust Spawn, $20.00
L660D Grey Oyster Plug Kit, $25.00
660E Grey Oyster Countertop Kit, $25.00

***P. pulmonarius* Italian Oyster** Clusters of tender brown caps with thick white stems. Considered to be one of the finest culinary oyster mushrooms. Also considered to be very medicinal with cardiovascular and cholesterol-controlling benefits. Grows well on many different hardwood species including oak, maple and poplar.

L661A Italian Oyster Plug Spawn, bag of 100, $15.00
L661B Italian Oyster Plug Spawn, bag of 500, $32.00
661C Italian Oyster Sawdust Spawn, $20.00
L661D Italian Oyster Plug Kit, $25.00

***Stropharia rugosoannulata* Wine Cap** Vigorous red-capped fruiting bodies for growing in non-sterile environments such as outdoor sawdust beds, wood chips and straw. Prefers hardwood chips but will grow on a mix of soft and hard. Once established, they will produce for several years and can be easily transplanted to fresh woody debris beds. (Available as sawdust spawn only.)

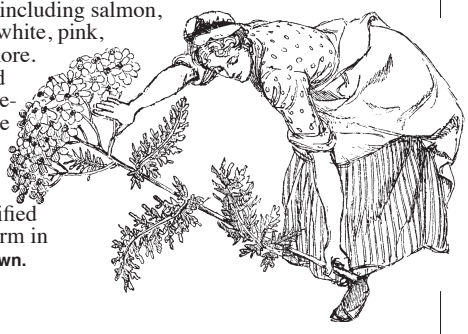
662C Wine Cap Sawdust Spawn, $20.00



Herbaceous Perennial Plants

USDA hardiness zone (chart on page 71) follows each description. All our plants are nursery propagated. They are not dug from the wild! All plant stock is bare root unless otherwise noted.

***Achillea millefolium* 'Summer Berries' Yarrow** 24" tall. Blooms June through September featuring 2–3" flat-topped heads of little pastel flowers in a range of colors including salmon, apricot, yellow, cherry red, white, pink, cream, two-tone pink and more. Excellent for fresh and dried arrangements. Cut-and-come-again flower heads guarantee a long season of blooms. Plant 18–24" apart in well-drained soil, full sun to part shade. MOFGA-certified organic, grown at Ripley Farm in Dover-Foxcroft. Z3. **ME Grown.**



L675 ***A**: 1 for $6.75*
***B**: 3 for $17.25*
***C**: 6 for $31.00*

***Aconitum napellus* English Monkshood** 36–40" tall. Also called **Friar's Cap**. Produces a mass of late-summer blooms with dense showy spikes of dark violet-blue helmet-shaped flowers above elegant palmate foliage in late summer. Grand delphinium-style blooms rarely need staking. An excellent cutflower—cut when 1/3 to 1/2 the spike is in bloom. I love watching bumblebees disappear under the hood then clamber out covered in pollen. The entire plant is poisonous; wash your hands after handling or cutting. Prefers partial shade. Plant 15–20" apart in moist soil. Z3.

L676 ***A**: 3 for $8.00* ***B**: 6 for $14.00* ***C**: 12 for $24.50*

***Alcea* Hollyhock** 5–6' tall. Classic towering spires covered with disc-shaped blossoms for extended bloom from June to October. This year we're offering all first-year–flowering cultivars that are truly perennial, not biennial like most Alceas on the market. Cut plants back to 12" after flowering has finished to encourage root growth. Plant 12" apart in moist well-drained soil. *Supplies may be limited, so order early to avoid disappointment!* Z3. (3 1/2" plug stock)

***A. ficifolia* 'Las Vegas' Singles Mix** Remarkable fig-leaved hollyhock displays single flowers in a foxy range of colors from chestnut-brown to red, pink to white, and yellow to copper.

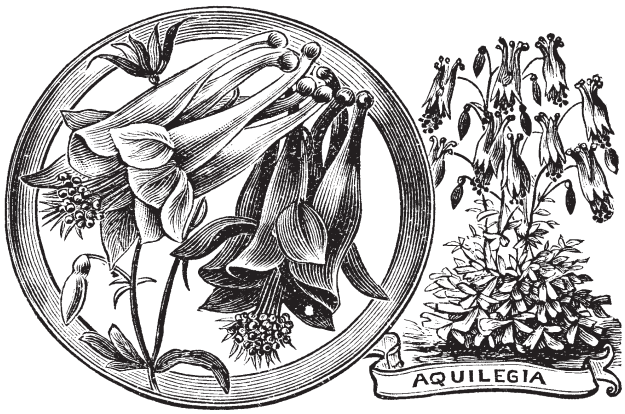
L677 ***A**: 1 for $4.50* ***B**: 3 for $11.75* ***C**: 6 for $22.00*

***A. rosea* 'Black Knight'** A single dusky midnight-purple beauty with a watchful yellow eye. Night gathers, and now my watch begins. I shall live and thrive at my post. I am the shield that guards the garden gate. I shall not be eaten by Japanese beetles—for in my dreams, they only have eyes for the golden-petaled beauties. I pledge my life and honor to lead you safely up the garden path, for this night and all the nights to come.

L678 ***A**: 1 for $4.50* ***B**: 3 for $11.75* ***C**: 6 for $22.00*

***Aquilegia* 'Origami' Columbine** 14–18" tall. Delightful little stacks of round-lobed leaves emerge in early spring when not much else is green. Soon after, magical jewel-like blossoms dance above the foliage. The elegant slender spurs are filled with nectar irresistible to pollinating hummingbirds. Origami is a mix of upward-facing giant flowers sporting long spurs in a bright bold assortment of colors, including bicolors. Excellent for cutting. Blooms from late May to early June. Plant 12–18" apart in light moist well-drained soil. Dappled shade guarantees the best flower color. Z3.

L679 ***A**: 1 for $5.50* ***B**: 3 for $13.85* ***C**: 6 for $25.00*



***Arisaema triphyllum* Jack-in-the-Pulpit**

12–24" tall. In midspring, one or two compound leaves appear close to the ground, each with three leaflets framing an upright stem topped by a striped tannish-purple 3" long cuplike spathe (the pulpit) that contains and arches over the erect greenish-yellow spadix (Jack). It's always a delight to lift the flap and see Jack. This magical Northeastern native prefers dappled shade and moist rich woodland soil. Plant 10–18" apart. Z3.

L680 ***A**: 1 for $7.25*
***B**: 3 for $18.25*
***C**: 6 for $33.00*

***Asclepias incarnata* Swamp Red Milkweed** 5' tall. Native to North America. Forms unique fragrant flat-topped clusters of upturned red-rose–colored flowers. Willow-like leaves are 4–5" long. Clump-forming; great for naturalizing. Attracts bees, butterflies and hummingbirds. Grows naturally in floodplains and wet meadows. Plant 18–36" apart in moist soil. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L681 ***A**: 1 for $6.75* ***B**: 2 for $12.50* ***C**: 3 for $16.50*

Ah your face
but it's whether
you can keep me warm
–Lorine Niedecker,
from *Collected Works*

Planting Guide for Bare-root Perennials

To receive our guarantee (see page 2) for items on pages 55-66, you must have followed these instructions:

When you receive your order:
- Open the bags and check the plant stock immediately.
- Roots and crowns should be firm and pliable, not soft or brittle.

Do not plant directly outside!

Pot up rootstock in well-drained slightly moist potting mix.
- Small roots need at least a 4" deep x 3.5" diameter pot.
- Medium to large roots need a 6" deep x 6" diameter pot.
- Avoid coiling the roots in the bottom of undersized containers.

Set pots in a protected spot in semi-shade.

During this time you must protect your plants from:
- Freezing
- Drying out
- Too much water
- Long periods of cold and wet conditions

Transplant outside after danger of frost has passed.
- Dig a hole twice the size of the pot.
- Add a little compost to the hole.
- Plant crown-tops just below ground level.

If you cannot pot up your plants immediately upon receipt:
- Store bare-root plant stock in a cool dark (35–40°) location for no more than one week.

***Astilbe* Feather Flower** Mixes are 18–40" tall. Also called **False Spirea**. Long-lasting plumes of flamboyant feathery flowers light up the shadier parts of the perennial border. Excellent as a dried flower. Elegant fern-like foliage forms an attractive clump that looks good all season. This year's awesome astilbe mixes each include our choice of 3 amazing astilbe varieties to glitter up your shade gardens! Each plant will be individually bagged and labeled with its name and cultural information. Prefers cool shady areas but is surprisingly tolerant of direct sun when planted in consistently moist well-drained soil. Plant 18–24" apart. Divide clumps every few years. Z4.

Red & Purple Astilbe Mix
Color range includes lavender-purple, raspberry-pink, raspberry-purple and red shades.

***L682* *A*: 3 plants for $14.25**

Light & Lovely Astilbe Mix
Color range includes light pink, peach, and milk-and-honey shades.

***L683* *A*: 3 plants for $14.25**

***Astrantia major* 'Star of Beauty' Masterwort** 20" tall. Carmine-rose rounded pincushion or buttonhead-type flowers with white centers are cupped by stars of rosy bracts. Also called **Hattie's Pincushion**. Clump-forming plant with loose basal rosettes of palmate leaves. Excellent cutflower both fresh and dried. Long bloom time, June through August. Thrives in woodland gardens or along stream banks, and deeply resents drying out. Plant 18–24" apart in consistently moist but well-drained soil. Part sun. Z4.

***L684* *A*: 1 for $6.50 *B*: 2 for $11.25 *C*: 3 for $15.25**

The effect of the cold air on the things growing in the garden is something I still cannot get used to, still cannot understand, after so many years; how can it be that after a frost the garden looks as if it had been to a party in… hell; as if the entire garden had been picked up and placed just outside the furnace of a baker's oven and the fire inside the oven was constantly being fed and so the oven door was never shut.

–Jamaica Kincaid, from *My Garden (Book):* (1999)

***Baptisia australis* Blue False Indigo** 3–4' x same. An early summer stand-out with vibrant blue lupine-like flowers. Native pollinator plant. Nitrogen-fixing legume transfers nitrogen from the air to the soil where it can be absorbed by neighboring plants. Has a bushy habit and shrub-like structure once mature. Seed pods turn black in fall, adding interest to the autumn landscape. Will develop an extensive root system, good for holding slopes to prevent erosion. Plant 3' apart in full sun and well-drained acid soil. Z3.

***L685* *A*: 1 for $7.25**
***B*: 3 for $17.75**
***C*: 6 for $32.00**

***Belamcanda chinensis* Blackberry Lily** 24–36" tall. Also called **Leopard Lily.** The official botanical name is *Iris domestica* though no one seems to call it that. Brilliant 1½" orangey-red flowers with maroon spots are held above iris-like fans of deep green foliage. Sturdy clump-forming plants spread by underground rhizomes. Capable of blanketing entire hillsides in optimal growing conditions. Plant 18" apart in consistently moist well-drained soil. Full sun to part shade. Z4.

***L686* *A*: 1 for $6.75**
***B*: 3 for $17.25**
***C*: 6 for $31.00**

***Campanula glomerata* 'Superba' Clustered Bellflower** 28" tall. Spherical clusters of upward-facing bell-shaped violet-blue to deep royal-purple flowers form atop dense rhizomatous basal clumps of green fuzzy foliage. Highly recommended for cutflower production. Stunning in mixed bouquets. Plant 12–18" apart in full sun to part shade in average well-drained soil. The farther north you are, the more sun it requires. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

***L687* *A*: 1 for $6.75**
***B*: 2 for $12.50**
***C*: 3 for $16.50**

***Delphinium* New Millennium 'Mini Stars' Mix** 2½' tall. Love the elegant charm of the giant delphiniums but can't give them the space they require in your garden? Dwarf delphiniums have all the stately grace of the giants without all the fuss and falling over! This mix offers sizeable cylindrical terminal flower spikes that rise above knee-high clumps of palmate glossy green foliage. Colors range from purple, blue, mauve, pink, lilac or cream. More tolerant to heat and humidity than many standard cultivars, yet the New Millenniums also thrive in super-chilly corners of the world with reports of successful perennial plantings in the frostier parts of Canada. Avoid overhead watering to prevent disease. Mulch recommended to keep the roots cool and moist. Plant 36" apart in highly fertile non-acid loam. Light shade is best but full sun is fine. Z3. (3½" hardy plug stock)

***L688* *A*: 1 for $6.50**
***B*: 2 for $11.25**
***C*: 3 for $15.25**

Leave the seeds

The tidy gardener may be tempted to cut perennials back in fall, yet leaving seedheads adds winter interest and provides food for wildlife. Consider letting some of these plants stand through winter:

Bee Balm (*Monarda* spp.)
Blazing Star (*Liatris spicata*)
Blue False Indigo (*Baptisia australis*)
Blue Globe Thistle (*Echinops ritro*)
Boneset (*Eupatorium perfoliatum*)
New England Aster (*Symphyotrichum novae-angliae*)
Purple Coneflower (*Echinacea purpurea*)
Spotted Joe Pye Weed (*Eutrochium maculatum*)
Swamp Red Milkweed (*Asclepias incarnata*)
Wild Senna (*Senna hepecarpa*)
Yarrow (*Achillea millefolium*)

***Dianthus deltoides* 'Arctic Fire' Maiden Pinks** 6" tall. A traditional cottage-garden favorite. Spicy clove-scented blossoms with dainty white serrated flower petals and a fiery red ring around the center eye. A stunning combination of fragrance, foliage and flower. Makes a carefree, naturally neat and tidy addition to the rock garden or sun-drenched path. An excellent complement to Siberian iris in early spring and later with Walker's Low *Nepeta* (see pg. 59). Shear off spent flowerheads to encourage a second bloom in fall. Lush perennial groundcover flowers the first year and will develop into tidy clumps over time. Worth their weight in gold in the border, attracting butterflies, hummingbirds and women with scissors! Plant in full sun, 12–18" apart in light well-drained soil. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L689 ***A****: 1 for $6.75* ***B****: 2 for $12.50* ***C****: 3 for $16.50*

***Dicentra* Bleeding Heart** Graceful racemes arch over clumps of attractive cut foliage. Distinctive heart-shaped flowers dangle in a row on each raceme like charms on a bracelet. Z3.

***D. eximia* Fringed Bleeding Heart** 18" tall. North American native plant with lacy blue-green foliage and dangling oblong heart-shaped blossoms that characteristically wear pink, but on occasion, are in the mood for white. Flowers are a little less tidy than the respectable *D. spectabilis*. Starts blooming in early summer and with regular deadheading can be cajoled into flowering all summer long. Given cool woodland conditions, the foliage of this Dicentra stays awake and looking good all season. Native to the Northeast and the Appalachian Mountains. Plant 12" apart in full to dappled shade in moist well-drained fertile soil. Will not tolerate wet winter soils. Freely self sows and will form a lovely colony if you let it.

L690 ***A****: 1 for $6.75*
B*: 3 for $17.50*
C*: 6 for $31.50*

***D. spectabilis* Old-Fashioned Bleeding Heart** 30–36" tall. Perfectly formed pink heart-shaped flowers with delicate white inner petals define this classic hardy long-lived perennial. Blooms early through midspring; goes dormant in summer.

L691 ***A****: 1 for $6.75*
B*: 3 for $17.50*
C*: 6 for $31.50*

***D.* x 'Sulphur Hearts' Yellow Bleeding Heart** 12" tall. Lovely sulphur-yellow hearts dangle above soft blue-grey lacy foliage from late spring to early fall. Flower color is a cool matte pastel lemon-yellow with a subtle lavender-purple tip. Mass this beauty together with some blue-green hostas and you'll have the perfect stop-and-stare garden along your woodland path. Plant 12" apart in full to dappled shade in moist well-drained fertile soil. We can only get our hands on 50 of these beauties, *so order early and hope for the best!*

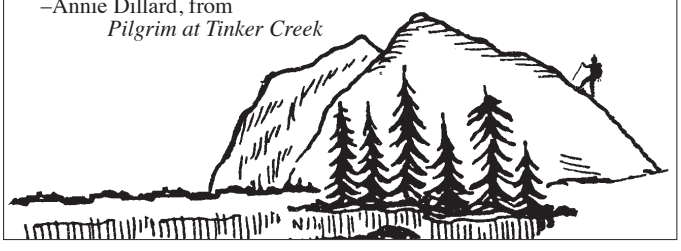
L692 ***A****: 1 for $11.75*

Another year has twined away, unrolled and dropped across nowhere like a flung banner painted in gibberish. "The last act is bloody," said Pascal, "however brave be all the rest of the play; at the end they throw a little earth upon your head, and it's all over forever." Somewhere, everywhere, there is a gap…

The gaps are the spirit's one home, the altitudes and latitudes so dazzlingly spare and clean that the spirit can discover itself for the first time like a once-blind man unbound. The gaps…are the fissures between mountains and cells the wind lances through, the icy narrowing fjords splitting the cliffs of mystery.

Go up into the gaps. If you can find them; they shift and vanish too. Stalk the gaps. Squeak into a gap in the solid, turn, and unlock—more than a maple—a universe. This is how you spend this afternoon, and tomorrow morning, and tomorrow afternoon. Spend the afternoon. You can't take it with you.

–Annie Dillard, from
Pilgrim at Tinker Creek



***Digitalis* Foxglove** Delightful tubular bell-shaped flowers with veined and spotted throats form along stately spires above basal rosettes of deep green velvet foliage. Flowers June through August. Good for cutting or the naturalized border. A must-have in every cottage garden. This year's offerings are both considered perennial but are best treated as biennials. Spread out the seedlings as they appear and a glorious patch will result in a few years. Plant 12–24" apart in moist slightly acid soil in full sun to part shade. Caution: all parts of the plant are poisonous; wash hands after handling. Z3. (3½" plug stock)

***D. mertonensis* Strawberry Foxglove** 2–4' tall. Copper-tinged strawberry-rose 2½" pendulous flowers with pink-and-white spotted throats. The hardiest foxglove for northern gardens.

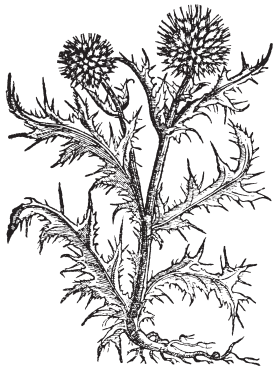
L693 ***A****: 1 for $4.50* ***B****: 3 for $11.75* ***C****: 6 for $22.00*

***D. purpurea* 'Dalmation Peach'** 2–3' tall. Elegant peachy-yellow blossoms with orange speckled throats. Soft and subtle beauty.

L694 ***A****: 1 for $4.50* ***B****: 3 for $11.75* ***C****: 6 for $22.00*

***Dodecatheon meadia* Shooting Star** 1–2' tall. A spring-blooming ephemeral woodland native to eastern and central North America. Leafless stalks with pink-to-white cyclamen-like flowers arise from light green basal rosettes. An excellent choice for naturalizing in both rock and woodland gardens. Dodecatheon goes dormant in late summer and disappears entirely, so it's best to mark location with a stake. These will not produce flowers their in the first growing season. Be patient and expect mid-spring to midsummer blooms in the second or third year of growth. Plant in light shade in moist well-drained woodland soil. Winter mulch is recommended; let nature's mulch of autumn leaves do its job. MOFGA-certified organic, grown at Ripley Farm. Z4. **ME Grown.**

L695 ***A****: 1 for $7.25*
B*: 2 for $12.50*
C*: 3 for $16.50*



***Echinops ritro* Blue Globe Thistle** 3–4' tall. Luminous 1½" steel-blue spiky spheres balance atop stiff stems with deeply divided silvery green leaves. *Echinops* comes from the Greek word for 'hedgehog.' Excellent addition to wreaths and fresh or dried arrangements. Blooms July to August. Beloved by bees. Tolerates shallow rocky ground. Plant 1–2' apart in full sun and well-drained soil. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

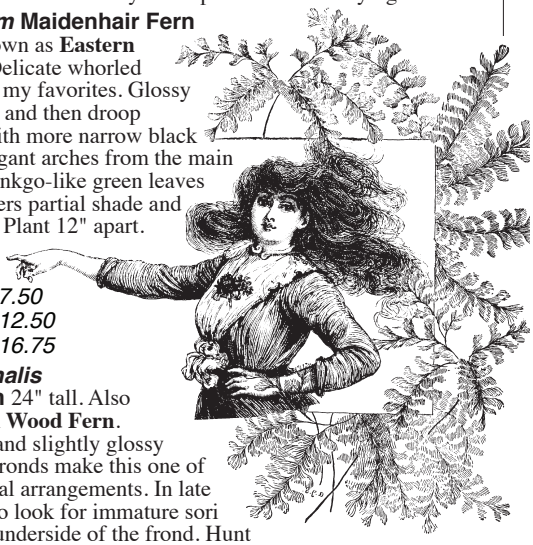
L696 ***A****: 1 for $6.75*
B*: 3 for $17.25*
C*: 6 for $31.00*

***Eryngium yuccifolium* Rattlesnake Master** 3–6' tall. Shimmering globe-thistle–like 1" greenish-white flowerheads with feathered silvery-green bracts on smooth stiff stems surrounded by sharply cut leathery foliage. Emits a subtle honey-like scent during the heat of the day. This North American native exhibits a rare and beautiful silhouette wherever it grows. Fabulous for cutflower production—an excellent bouquet-builder, providing good structure for arrangements. Attracts numerous types of long- and short-tongued bees, wasps, flies, butterflies, moths and beetles. Self-seeds freely over time. Plants tend to open up and sprawl if grown in rich soils or in anything less than full sun. Forms a taproot and is best left undisturbed once established. Plant 18–24" apart in full sun and well-drained sandy soil. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L697 ***A****: 1 for $7.25* ***B****: 2 for $12.50* ***C****: 3 for $16.50*

Ferns are flowerless spore-producing perennials, represented by more than 10,000 species worldwide, ranging from 70' tropical tree ferns to teensy plants sprouting from cracks in alpine rock. In Maine we enjoy lush fern displays all summer on the roadsides and in the woods. Ferns make wonderful low-maintenance foliage plants that thrive in woodsy humus-rich soil and lend a serene aura to a shady garden or landscape. Mulch with 2" of leaves if necessary to keep crowns from drying out.

***Adiantum pedatum* Maidenhair Fern** 10–12" tall. Also known as **Eastern Maidenhair Fern**. Delicate whorled form makes it one of my favorites. Glossy black stems curve up and then droop toward the ground with more narrow black stems growing in elegant arches from the main stem. Tiny distinct ginkgo-like green leaves line every stem. Prefers partial shade and slightly alkaline soil. Plant 12" apart. Native to eastern North America. Z2.



L698 ***A**: 2 for $7.50* ***B**: 4 for $12.50* ***C**: 6 for $16.75*

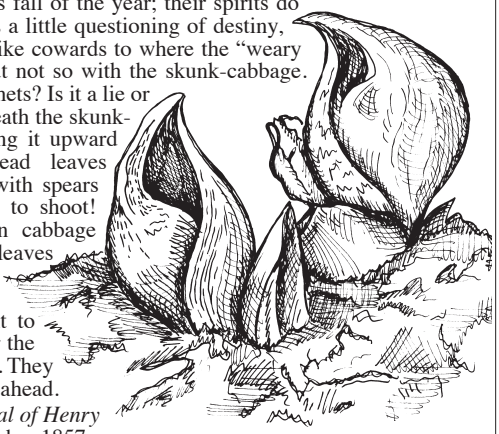
***Dryopteris marginalis* Leatherwood Fern** 24" tall. Also known as **Evergreen Wood Fern**. Strong sturdy stems and slightly glossy leathery grey-green fronds make this one of the best ferns for floral arrangements. In late spring it's great fun to look for immature sori (spore cases) on the underside of the frond. Hunt for small green bumps along the margins of the subleaflets. Later in the year, the sori changes color to rusty-brown. Evergreen leaves flourish through the winter and can be found in rocky wooded slopes in Canada, onwards south to Alabama and farther west to the Rocky Mountains. Performs best in less than 3 hours of sunlight per day but will tolerate more if you ask nicely. Plant 12" apart in moist well-drained woodland soil. Z3.

L699 ***A**: 2 for $7.50* ***B**: 4 for $12.50* ***C**: 6 for $16.75*

***Osmunda regalis* Royal Fern** Attains giant proportions! Soft and wavy deciduous lance-shaped light green fronds can reach 3' long. Sometimes called **Flowering Fern** because some of the fronds have brown spore cases on their tips that lend a decorative tassel-like appearance. One of the showiest garden ferns makes a great focal point at the waterside or in a woodland. Can reach up to 6' tall and spread to more than 9' wide at maturity. Evolutionarily speaking, *Osmunda* is one of the oldest plant genera, native to North and South America and Asia. Some Royal Fern individuals are said to be 1000 years old. Ours are much younger. Prefers wet boggy areas and part shade. Plant 18" apart in consistently moist soil. Z2.

L700 ***A**: 2 for $7.50* ***B**: 4 for $12.50* ***C**: 6 for $16.75*

If you are afflicted with melancholy at this season, go to the swamp and see the brave spears of skunk-cabbage buds already advanced toward a new year. Their gravestones are not bespoken yet. Is it the winter of their discontent? Do they seem to have lain down to die, despairing of skunk-cabbagedom? "Up and at 'em," "Give it to 'em," "Excelsior," "Put it through,"—these are their mottoes. Mortal human creatures must take a little respite in this fall of the year; their spirits do flag a little. There is a little questioning of destiny, and thinking to go like cowards to where the "weary shall be at rest." But not so with the skunk-cabbage. Are these false prophets? Is it a lie or a vain boast underneath the skunk-cabbage bud, pushing it upward and lifting the dead leaves with it? They rest with spears advanced; they rest to shoot! … See those green cabbage buds lifting the dry leaves in that watery and muddy place. There is no can't nor cant to them. They see over the brow of winter's hill. They see another summer ahead.



–from *The Journal of Henry David Thoreau*, October 1857

***Geranium maculatum* Spotted Cranesbill** 24" tall. Clusters of single 1¼" wide pinkish-lilac saucer-shaped flowers. The deeply cut leaves turn vivid shades of reddish-orange in autumn and distinctive long narrow "cranesbill" seedpods flutter jauntily above the spreading foliage. Vigor, longevity, hardiness, lo-o-ong flowering period and lush attractive foliage make this North American native useful for borders, edging, rock gardens or as an orchard companion. Also known as **Wild Geranium**, this is the true geranium. Beneficial insect attractor. Native pollinator plant. Low-growing spreading groundcover. For best results plant in the lightly shaded areas of wild open woodland gardens or in the orchard underneath your ancient apple trees. Plant 12–18" apart in average garden soil. Z4.

L701 ***A**: 2 for $7.50* ***B**: 4 for $12.50* ***C**: 6 for $16.75*

***Helenium autumnale* Red & Gold Sneezeweed Mix** 4–5' tall. Supposedly used for snuff in earlier times, hence the common name. A rich and blazing scheme of bronze, brown, crimson and yellow for a vibrant end-of-summer display. Single flowers resemble coreopsis in shape but have a large center button much like a coneflower. Combine with asters and phlox for great late-season color. Not fussy, easy to grow, excellent cutflower, and at its prime when most perennials are done blooming. Plant 18" apart in full sun. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L702 ***A**: 1 for $6.75* ***B**: 3 for $17.25* ***C**: 6 for $31.00*

***Hemerocallis* Daylily** Champion low-maintenance perennial produces a bush of narrow arched leaves topped with lily-shaped flowers from July to September. *Hemerocallis* means 'beautiful day,' referring to the fact that each flower lasts only a day, but since each scape (or stem) is covered with buds, bloom periods can be extensive and the long stems work well in bouquets. Trouble-free, chokes out weeds. Flourishes under a wide range of conditions, from full sun to shade, wet to dry. Plant 12–18" apart in average soil; benefits from an annual shovel or two of compost. This year's stock is one-year-old field-grown rootstock with two fans. Z2.

***H.* 'Adorable Tiger'** 26" tall. Outlandish 5" blossom with a golden-yellow base and standout sienna-red eye-ring that covers nearly half the petal. Polished off by a unique red picotee edge. There's a massive granite wall in Norridgewock all dressed up with a handsome patch of these delightful stunners. Midseason blooms.

L703 ***A**: 1 for $8.75* ***B**: 2 for $15.25* ***C**: 3 for $21.00*

***H.* 'Handwriting on the Wall'** 24" tall. Dusty-pink 6"-wide blossoms with stunning lavender-blushed eyes outlined in rose-wine. Elegant ivory mid-ribs and bright yellow throats. Finished with a thin rose-wine picotee edge.

L704 ***A**: 1 for $8.75* ***B**: 2 for $15.25* ***C**: 3 for $21.00*

***H.* 'Lavender Blue Baby'** 28" tall. Fragrant 5½" rosy blossoms with prominent lavender-blue eye-rings, chartreuse throats, and recurved edges. The colors blend together for a tie-dyed effect. If a daylily were to attend a Grateful Dead show, this would be the one. Early to midseason rebloomer.

L705 ***A**: 1 for $8.75* ***B**: 2 for $15.25* ***C**: 3 for $21.00*

***H.* 'Little Grapette'** 18" tall. A small and mighty miniature daylily with 2"-wide light grape-purple tepals with a black purple band, a rose-purple watermark and lime green throat. High bud count makes this one of our favorites for the front of the daylily border. Midseason blooms.

L706 ***A**: 1 for $5.50* ***B**: 3 for $14.25* ***C**: 6 for $25.75*

***H.* 'Mighty Chestnut'** 30" tall. An unusual daylily guaranteed to stand out with fragrant 5"-wide "chestnut" blossoms that are actually a deep russet red with rounded lightly ruffled petal edges, deep burgundy eye-zones and golden-yellow throats. Exceptional bloom performance and a vigorous habit. Midseason blooms.

L707 ***A**: 1 for $7.25* ***B**: 2 for $12.75* ***C**: 3 for $17.00*

Hosta Bold foliage forms orderly mounds with dependable sprays of fragrant bell-shaped flowers on tall stalks. Valuable and cherished low-maintenance border plant provides shade-loving groundcover from spring to frost. With their varying colors, textures and clump sizes, hostas alone under trees can make a woodland garden. Hostas tolerate a wide range of soil conditions but need moisture. Those with blue and variegated leaves develop their best color in shade. Deep shade gives fewer flowers but better leaf colors. Plant 2–4' apart in rich soil with adequate humus. Divide every 4–5 years, or leave them alone; they will improve with age as they spread and establish. Z3.

H. **'Guardian Angel'** Hark! A hosta like no other! We planted one of these glorious angels along our woodland path in 2014, another in 2016, and another in 2017. We can't get enough of the mystical color-changing display! In early spring, large thick heart-shaped blue-green leaves emerge and gradually shade-shift to display creamy-white centers. By late spring, a distinctive green misting appears over the white. By mid-to-late summer, the center of the leaf changes color again to a cool misty blue. Color variations improve with maturity. Lavender flowers. A fabulous sport of Blue Angel. 24" tall and 56" wide.

L708 ***A**: 1 for $5.50* ***B**: 2 for $13.00* ***C**: 3 for $23.00*

H. **'Lakeside Paisley Print'** Dramatic design and texture make this hosta a must-have for any collector. Unique heart-shaped leaves with wide wavy green margins. Slender, creamy-white and yellow streaks in the center of the leaf shoot out from the cream petioles in a fabulous feathered Farah Fawcett-style pattern! Lavender flowers on 24" scapes. 12" tall and 30" wide.

L709 ***A**: 1 for $9.50* ***B**: 2 for $16.25* ***C**: 3 for $21.75*

Humongous Hostas Mix Fulfill your shadiest garden fantasies! We will choose six of the biggest hosta varieties we can get our hands on, all listed as "Giants," in a variety of solid blues, solid greens, dark margins with light centers, and light margins with dark centers. Size matters: will be no shorter than 30" tall and up to 80" wide at maturity. Each plant will be individually bagged and labeled by name.

L710 ***A**: 6 plants for $31.50*

Iris sibirica **Siberian Iris** In late June, delicate flowers dance above tall slender slate-green foliage that looks good all summer. Tolerates most conditions, but performs best in rich moist acid soil. Plant 18" apart in full sun or partial shade. Give them room to spread, and divide clumps every few years. Z3.

I. s. **'Concord Crush'** 28" tall. Large 6" double light blue flower with a lemon-yellow blaze. Pair this handsome blue devil with Pink Parfait for a torrid arrangement.

L711 ***A**: 1 for $4.50* ***B**: 3 for $11.75* ***C**: 6 for $22.00*

I. s. **'Pink Parfait'** 28" tall. Large 7" double light pink-lavender flower that looks more like a rose than an iris is perfectly balanced atop an attractive fan of slate-green leaves. Looks like one of those fancy fondant cake decorations that everyone's gone bonkers over in recent years. Vigorous long-blooming tetraploid.

L712 ***A**: 1 for $4.50* ***B**: 3 for $11.75* ***C**: 6 for $22.00*

I. versicolor **Northern Blue Flag** 30–36" tall. Northeastern native species carries gorgeous blue-violet flowers with bold purple veining and a white and lemon-yellow blaze. Tall slender blue-green arching lance-shaped leaves offer a strong vertical feature to the landscape. Requires consistently moist soil and prefers 2–4" of shallow standing water. Plant 12–24" apart in full sun to part shade. Early bloom time. Z2.

L713 ***A**: 3 for $10.50* ***B**: 6 for $18.50* ***C**: 12 for $33.00*

Leucanthemum **x** ***superbum*** **'Alaska' Shasta Daisy** 30–40" tall. Crisp snow-white petals form a tidy ring around a bright yellow disk. An improvement on the wild daisy, with a longer bloom time and bigger flowers. Starts blooming mid-July here in central Maine and with regular cutting will bloom into fall. Excellent choice for cutflowers. One of the easiest perennials to grow. Plant 12–18" apart in full sun to partial shade in well-drained soil. MOFGA-certified organic, grown at Ripley Farm. Z4. **ME Grown.**

L714 ***A**: 1 for $6.75* ***B**: 2 for $12.50* ***C**: 3 for $16.50*

Liatris spicata **Blazing Star** Also called **Gayfeather**. Stiff dense "bottlebrush" flower spikes tower above fine grass-like foliage. Adds elegant structure to the perennial border and mixed bouquets. For cutflowers be sure to leave at least 1/3 of the stem on each plant for best results. Blooms from July to September. Tolerates a broad range of growing conditions, but not drought. Plant in full sun, 3" deep, 8–12" apart, in well-drained fertile soil. Z3. ($1^1/_4$–$1^1/_2$" corms)

L. s. **Floristan White** Dreamy white flower wands grow 30–36" tall.

L715 ***A**: 10 for $2.75* ***B**: 20 for $4.75* ***C**: 50 for $10.00*

L. s. **Purple Blazing Star** Magical magenta-purple flower wands grow 20–30" tall.

L716 ***A**: 10 for $2.75* ***B**: 20 for $4.75* ***C**: 50 for $10.00*

Lilium **Oriental Lily Mix** 30–44" tall. Queen of the perennial border, fabulously showy and surprisingly easy to grow. Colors range from all-pinks, all-whites, to brilliant bicolors with spots and stripes. The five or more varieties in this mix of fragrant Oriental hybrids will draw a crowd to your garden in August. Great as cutflowers, or let them stand in display beds. Excellent as bedding plants or cutflowers, good as specimens or in solid masses. Light shade prolongs summer blooms and keeps the bulbs cool. Plant bulbs 6–8" deep, 6" apart in rich slightly acid well-drained soil. Z3.

L717 ***A**: 3 for $8.75* ***B**: 6 for $15.75* ***C**: 12 for $26.00*

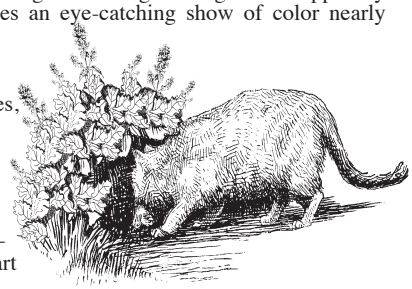
L. tigrinum **'Citronelle' Tiger Lily** 2–5' tall. Robust variety produces scads of luminous lemon-yellow flowers with recurved petals generously flecked with dark purple dots. Prominent rusty-red anthers produce a beautiful mahogany pollen. Tiger lilies are distinguished by purplish-black bulbils in the leaf axils along the stem. When the plant is happy, the bulbils will drop and sprout baby lilies by the score. Z2. ($1^1/_2$–$1^3/_4$" bulbs)

L718 ***A**: 3 for $6.50* ***B**: 6 for $10.50* ***C**: 12 for $20.50*

Lobelia syphilitica **Great Blue Lobelia** 3–5' tall. In early spring, this gorgeous North American native forms deep green rosettes, which produce tall green stems with alternate lance-shaped leaves. Blue-violet flower spikes appear midsummer. Don't deadhead: healthy plants produce several thousand seeds per stem and require damp open ground to germinate well. Plant along the riverbank and streambed, edges of bog, in the perennial border or in the meadow. Absolutely stunning once established. Best planted in light shade in consistently moist soil, with minimal weed competition the first year. MOFGA-certified organic, grown by Ripley Farm. Z3. **ME Grown.**

L719 ***A**: 1 for $6.75* ***B**: 2 for $12.50* ***C**: 3 for $16.50*

Nepeta faassenii **'Walker's Low' Catmint** 2–3' tall, despite its name. Aromatic grey-green foliage with long arching stems topped by lavender-blue flowers provides an eye-catching show of color nearly all summer. Creates a strong dependable low-growing hedge along any garden path. Flowers attract bees, butterflies, hummingbirds and human admiration. 2007 Perennial Plant of the Year. Cut back in midsummer to encourage steady blooms. Likes hot and dry, but will grow in any well-drained soil. Plant 18–24" apart in full sun to part shade. Z3.



L720 ***A**: 1 for $6.75* ***B**: 2 for $12.50* ***C**: 3 for $16.50*

Oligoneuron rigidum **Stiff Goldenrod** 2–5' tall. Also called **Rigida**. Formerly classified as a member of the *Solidago* genus and recently reclassified as an *Oligoneuron*. Grower Gene Ripley said it best: "Rigida displays the gorgeous yellow-gold vibrancy of goldenrod, but packed into a dense, showy, flat-topped cluster, with attractive lush slate-green foliage that you'd never recognize as a goldenrod. The pollinators absolutely love it, like all goldenrods, but Rigida draws them in without looking weedy or common. My favorite kind of plant: a native pollinator magnet that holds its own in the garden on looks alone!" Excellent cutflower. Plant in full sun to part shade in rich well-drained soil. MOFGA-certified organic, grown by Ripley Farm. Z3. **ME Grown.**

L721 ***A**: 1 for $6.75* ***B**: 2 for $12.50* ***C**: 3 for $16.50*

***Paeonia* Itoh Peony** Also known as **Intersectional Hybrid Peonies**, these wonders are a cross between herbaceous garden peonies and tree peonies and feature the best of both. Giant 6–9" blossoms (like the ones on tree peonies) open just after the garden peonies have faded. The growth habit is similar to garden peonies with attractive mounded foliage that dies back in the winter. But do not cut Itoh peonies down the ground in the fall—next year's buds need room to develop on the lower stems. Leave at least 6" of hardwood stems above the ground.

Named for Toichi Itoh, the Japanese hybridizer who supposedly made thousands of attempts to cross garden and tree peonies. He finally succeeded in 1948 but did not live to see his seedlings bloom. In the 1970s Toichi's widow gave an American breeder permission to introduce Itoh peonies to the West, where hybridizers took up the intersectional torch.

Full planting and pruning instructions will be included with your order. *Supplies limited—order early to avoid disappointment!* Z3. (Stock has 3–5 eyes.)

***Paeonia* (Itoh) x 'Bartzella'** 30–36" tall. Fragrant 6" semi-double lemon-yellow flower with red flames at the center. Blossoms can display as fully double on occasion.

L722* *A: 1 for $40.00

***Paeonia* (Itoh) x 'Julia Rose'** 30–36" tall. Cherry-red buds open to 8" fragrant semi-double orange-apricot-pink flowers with subtle purple edging. Blossoms eventually fade to yellow. All five colors can be seen on one plant at the same time.

L723* *A: 1 for $56.75

***Paeonia* (Itoh) x 'Scrumdiddlyumptious'** 30–36" tall. Semi-double 6" blooms are light cream with blush-pink edges.

L724* *A: 1 for $70.00

The process of receiving and reading catalogues may not be as important to my garden as my weeding is, but that is the way I begin the gardening season again, and then just when that conviction sets in, the seed and plant catalogues start to arrive. The very big, showy ones…are psychological lifts: I never read them; I only look again and again at the pictures. The best catalogues for reading are not altogether unlike wonderful books; they plunge me deep into the world of the garden, the growing of the things advertised…, and that feeling of being unable to tear myself away comes over me, and there is that amazing feeling of love, and my imagination takes over as I look out at the garden, which is blanket upon blanket of white, and see it filled with the things described in the catalogue I am reading.

–Jamaica Kincaid, from *My Garden (Book):* (1999)

***Paeonia lactiflora* Garden Peony** Also called **Chinese Peony**. Red shoots appear in spring and form a bushy clump, about 3x3', of lustrous dark green deeply lobed foliage. Fat spherical buds on sturdy stems above the foliage gradually open into large beautiful flowers from late spring to early summer. (Ants may help the buds open so don't discourage their presence.) May take 3 to 5 years to establish before, blooming and resents being disturbed or left in a pot for more than one winter. Wait several years until the plants have many stems (therefore many eyes) before dividing. Z3. (Stock has 3–5 eyes, except where noted.)

***P. l.* 'Festiva Maxima'** 3' tall. Introduced in 1851. Heavenly scented large double white flowers with a light crimson drizzle upon the central petals. Early season blooms. 2–3 eyes.

L725* *A: 1 for $13.00 B: 2 for $23.00 C: 3 for $31.00

***P. l.* 'Red Sarah Bernhardt'** 34" tall. We've got a true color imposter on our hands with this new intro. The name claims to be a red version of the classic Sarah B. but this stunner is actually a gorgeous rich reddish-purple-cerise. Light sweet fragrance. Late season blooms.

L726* *A: 1 for $15.00 B: 2 for $26.00 C: 3 for $35.00

***P. l.* 'Sarah Bernhardt'** 36" tall. Introduced in 1906. Fragrant flowers open with narrow red lines shot onto light rose-pink. Matures to delicate pink with a slight creamy-silvery edge. Can a pink be both warm and silvery? This one is. One of my favorites with exactly the right amount of doubling—appears richly full but not crammed. Late season blooms.

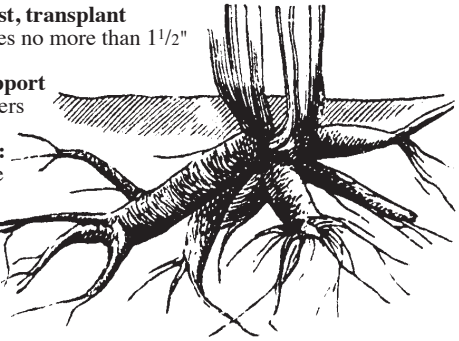
L727* *A: 1 for $8.75 B: 2 for $15.00 C: 3 for $20.50

***P. l.* 'The Fawn'** 32" tall. Introduced sometime between 1922 and 1943. Possibly the most posh peony you will ever set eyes on. Fragrant fully double blossoms feature translucent silky blush-pink petals covered with subtle deeper pink speckles. The overall effect is breathtaking. Sturdy stems not as floppy as most peonies. Late season blooms. Opens just before Sarah Bernhardt and keeps longer in a vase.

L728* *A: 1 for $23.00 B: 2 for $39.50 C: 3 for $53.25

Growing Garden Peonies

- **Peonies prefer:** full sun to part shade, and rich fertile well-drained soil
- **Recommended soil amendments:** compost, bone meal, azomite
- **When you receive your peony rootstock**, pot them up, following the instructions on page 55.
- **After danger of frost, transplant** 2–3' apart with the eyes no more than 1 1/2" below the soil.
- **Peonies require support** to prevent heavy flowers from flopping.
- **Autumn plant care:** Cut back to just above ground level to allow a fresh start in spring. Amend soil with compost around the base of the plant.



***Papaver orientale* Oriental Poppy**

Breathtaking clump-forming perennial features finely cut bristly frosty-green leaves and shimmering crepe-paper blossoms that give way to unique signature seedpods that are an essential component in late-season bouquets and dried arrangements. The entire plant goes summer-dormant—don't be alarmed when the leaves turn brown in early summer and disappear almost entirely by August. Basal mats of new leaves will appear in the fall. Oriental poppies form a taproot, so loosen soil deeply before planting so roots can reach the cool soil with ease. Requires full to part sun and neutral well-drained soil. Overwatering, particularly during dormancy, is the most common cause of failure. Winter mulch is recommended to prevent heaving. Z3.

***P. o.* 'Little Patty's Plum'** 20" tall. Dusky damson-plum–colored blossoms. A short version of the original Patty's Plum poppy, a compost-pile surprise discovered in the 1990s by gardener Sandra Pope. Named for plantswoman Patricia Marrow, owner of the famous Kingsdon Nursery in Somerset, England.

L729 ***A**: 1 for $6.50* ***B**: 2 for $11.00* ***C**: 3 for $14.75*

***P. o.* 'Turkenlouis'** 24–36" tall. A fiery sunburst of orangey-red fringed and ruffled blossoms.

L730 ***A**: 1 for $6.50* ***B**: 2 for $11.00* ***C**: 3 for $14.75*

***Penstemon digitalis* Foxglove Beardtongue** 3' tall. Beckon the birds and bees to your garden with these white to light pink spires covered with nodding tubular bell-shaped flowers. Plant 8–14" apart in full sun to part shade in fertile medium-dry well-drained soil. Will self sow and develop a nice stand over time. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L731 ***A**: 1 for $6.75* ***B**: 2 for $12.50* ***C**: 3 for $16.50*

***Perovskia atriplicifolia* Russian Sage** 36–48" tall. Blooms in midsummer with elegant slender spires of lavender-blue tubular flowers. Finely divided grey-green leaves are aromatic when crushed. Perovskia has one of the longest bloom times of any blue-flowered plant. Semi-woody shrub emerges slowly in spring; cut back after frost. Tolerates drought, loves heat and full sun, can't bear standing water. Likes to spread out once it gets established and it is so beautiful it deserves every foot of space it can get! Plant 24–36" apart. I suspect that Zone 4 reports of winterkill are from poor drainage rather than cold, so a cautious Z4.

L732 ***A**: 1 for $7.25* ***B**: 3 for $18.75* ***C**: 6 for $33.50*

***Phlox* Garden Phlox** Large spreading clusters of fragrant showy long-blooming flowers in mid to late summer will accent your border or naturalized area with wonderful color and fragrance. Attracts butterflies and hummingbirds. Essential component of late-summer wedding bouquets. Extend flowering season by watering and prompt deadheading. Prefers humus-rich soil that stays cool and moist in summer, and benefits from regular side-dressing. Plant 2' apart, full sun to partial shade. Z3.

***P. amplifolia* 'Goliath'** 26–30" tall. Giant fragrant lilac-purple flowers with starry white spokes and dark eyes. The flower heads are twice the size of any phlox we've seen!

L733 ***A**: 1 for $6.50*
***B**: 2 for $11.00*
***C**: 3 for $14.25*

***P. amplifolia* 'Hercules'** 26–30" tall. Giant fragrant light pink flowers with subtle starry white spokes and darker eyes. In the land of Phlox, Hercules is Goliath's brother and his blossoms are just as big!

L734 ***A**: 1 for $7.50*
***B**: 2 for $13.25*
***C**: 3 for $17.75*

***P. paniculata* 'Red Riding Hood'** 18–24" tall. A compact variety with large fragrant cherry-red flowers.

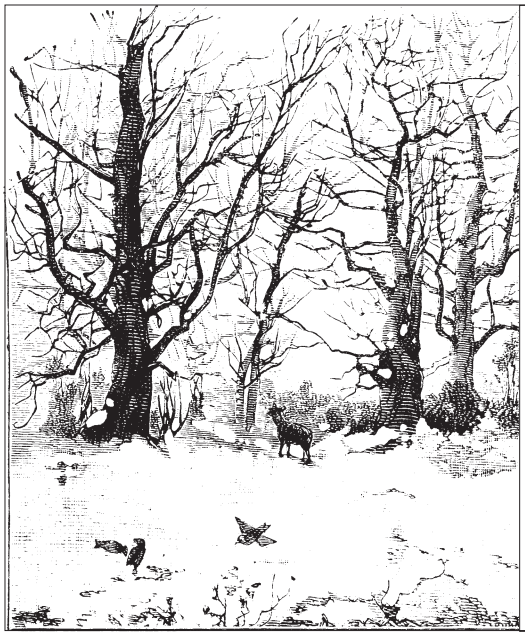
L735 ***A**: 1 for $7.50*
***B**: 2 for $13.25*
***C**: 3 for $17.75*

***Polygonatum biflorum* Solomon's Seal** 36" tall, or taller. Clumps of 3'-long graceful arching stems with long narrow alternate leaves. Greenish-white bell-shaped tubular flowers dangle in rows along the stems in late spring and become small round blue-black fruits in early fall. Roots are traditionally used to strengthen weak joints and ligaments and act as a connective tissue anti-inflammatory. Don't confuse it with False Solomon's Seal, which has a plume-like flower at the end of the stem. Can be slow to show itself: I planted six crowns in spring 2013 that didn't sprout until fall of 2014! By 2015 they were looking beautiful. Ideal for the shade or woodland garden but will grow in full sun if you insist. Plant 18–24" apart. Z3.

L736 ***A**: 3 for $9.25* ***B**: 6 for $16.25* ***C**: 12 for $29.00*

***Pulmonaria* 'Mrs. Moon' Lungwort** 9–12" tall and eventually up to 2' wide. Brighten up your shade garden with this bold-textured woodland perennial. Periwinkle-blue buds open to charming pink flowers, creating a striking effect with both colors appearing at once on the same plant. Large ovate slate-green leaves are dressed in vivid silver-white splotches. Presents a brilliant early season contrast to blooming daffodils and emerging hostas and ferns. Plant 1–2' apart in moist soil and full to partial shade. Z3.

L737 ***A**: 1 for $4.00* ***B**: 3 for $10.00* ***C**: 6 for $17.50*



It sifts from Leaden Sieves -
It powders all the Wood.
It fills with Alabaster Wool
The Wrinkles of the Road -

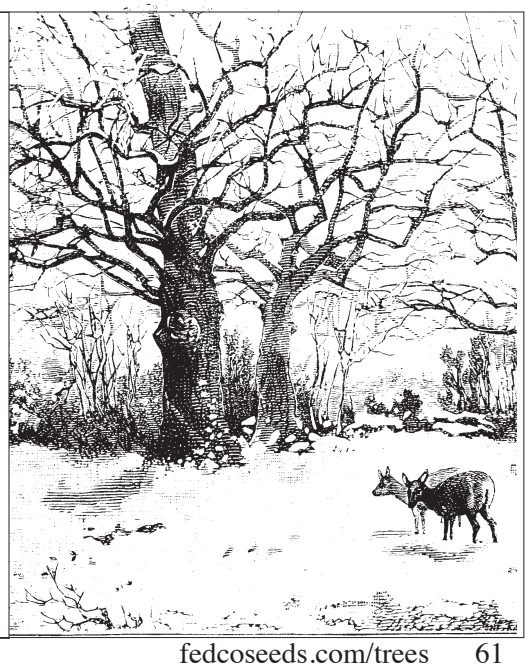
It makes an even Face
Of Mountain, and of Plain -
Unbroken Forehead from the East
Unto the East again -

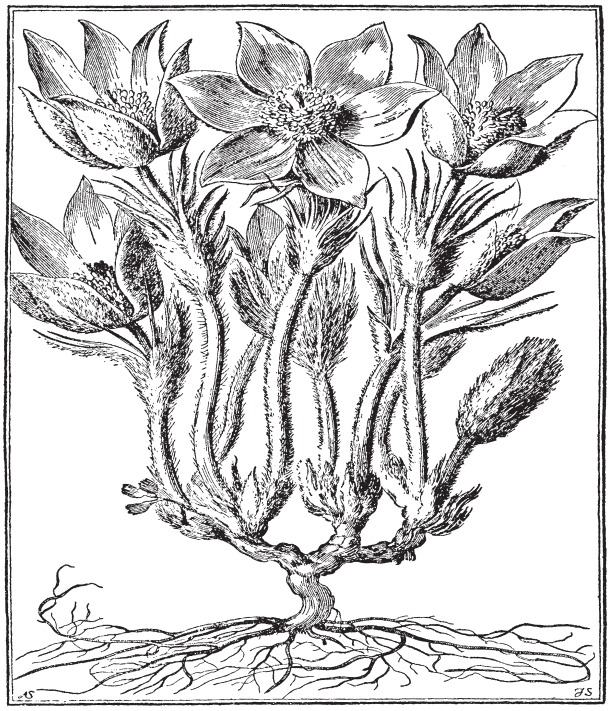
It reaches to the Fence -
It wraps it Rail by Rail
Till it is lost in Fleeces -
It deals Celestial Vail

To Stump, and Stack - and Stem -
A Summer's empty Room -
Acres of Joints, where Harvests were,
Recordless, but for them -

It Ruffles Wrists of Posts
As Ankles of a Queen -
Then stills it's Artisans - like Ghosts -
Denying they have been -

–Emily Dickinson





Pulsatilla vulgaris **'Rubra' Pasque Flower** Up to 12" tall. Also known as **Wind Flower**. Frosty-green fuzzy flower stems often emerge when patches of snow are still on the ground. Soon after, large open bell-shaped dusky burgundy flowers with golden-yellow stamens bloom as the finely cut furry ferny foliage begins to form. At bloom time flower stems are typically 4–5" tall but continue to grow after blooms have passed, eventually reaching heights of 9–12", with unique spherical clusters of feathery silvery seedheads. Excellent choice for rock gardens and the front of the border. With proper care it will develop a deep extensive root system. Plant 10" apart in full sun to part shade in rich seriously well-drained soil. Prefers not to be disturbed once established. Z4. (3½" plug stock)

L738 ***A****: 1 for $3.25* ***B****: 2 for $5.50* ***C****: 3 for $7.50*

Sanguinaria canadensis **Bloodroot** Native spring ephemeral with enchanting solitary 1½" white flowers and 8–12 petals which emerge from tightly rolled leaves. Low-growing grey-green leaves unfurl into an unmistakeable lobed and scalloped palm shape spanning 4–8" across. Flowers open at night and close during the day. Forms a colony over time and is worth the wait—bloodroot is one of the most handsome woodland plants in existence. Best planted en masse in moist rich well-drained shaded woodland soil, pH 5.5–6.5. Spreading underground rhizomes exude a somewhat caustic rusty-brown sap when cut. Wash hands after handling. Nursery propagated. Z3.

L739 ***A****: 3 for $12.00* ***B****: 6 for $22.00* ***C****: 12 for $40.00*

Sempervivum **Hens and Chicks Mix** If you've got boulders in the back forty or a rocky sandy sun-drenched spot in the dooryard, you have the makings for an amazing cascading Sempervivum display. *Sempervivum* means 'always alive.' Low-growing rosette-forming succulents produce runners and babies by the boatload. Drought- and heat-tolerant beyond belief, and cold-hardy, too! Sempervivums offer a fun way to learn about fractals and how our world works—you can plant them in a strawberry pot with the kids for a fun easy-to-care for botany/math project, or go whole hog and build a mini-boulder palace all decked out in Hens and Chicks and mosses. Performs best in super-drained gravelly soil with lots of sun and dappled shade. We're offering a mix of varieties including reds, greens and purples. Z3. (2½" pots)

L740 ***A****: 1 for $4.00* ***B****: 3 for $9.00* ***C****: 6 for $15.50*

Senna hebecarpa **Wild Senna** 4–6' tall. Also called **Partridge Tree**. Little canary-yellow flowers form dense clusters above attractive compound pea-like foliage. According to the USDA, it is not yet known if this leguminous North American native fixes atmospheric nitrogen, as so many legumes do. We do know it attracts butterflies and bees and provides food for hungry wildlife. Develops long slender dark-brown seedpods, beloved by birds. Plant a hedge of this stately sun-loving plant in the wild meadow—the seed pods burst when ripe, attracting partridge, turkeys and the like. Plant 2' apart in moist to wet soil. Full sun. Thrives in clay soils but will tolerate sandy or loamy ground. MOFGA-certified organic, grown by Ripley Farm. Z4. **ME Grown.**

L741 ***A****: 1 for $7.25* ***B****: 2 for $12.75* ***C****: 3 for $17.25*

Symphyotrichum novae-angliae **New England Aster** Grand heights of 4–6' tall! North American native with freely branching sprays of brightly colored flowers decorate the autumn landscape throughout the Northeast. Colors range from blue-purple to lavender-pink with yellow eyes. Asters add hardy grace to the back of the wild border and will naturalize on banks or in the meadow. Cut back slightly in early to mid June to induce an abundance of 1½–2" rayed blooms from late August into October. Deer usually don't eat them. Provides a late-season source of nectar for hungry pollinators. Plant 12–18" apart in light moist humusy soil in full sun with good air circulation. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L742 ***A****: 1 for $6.75* ***B****: 3 for $17.25* ***C****: 6 for $31.00*

Symphytum **x** ***uplandicum*** **'Bocking 14' Russian Comfrey** 24–48" tall. Highly recommended as a companion plant for orchards. Makes an excellent addition to the compost pile as it is rich in silica, nitrogen, magnesium, calcium, potassium and iron. Use as mulch or turn the leaf into compost tea for your garden. Clusters of bell-like magenta-purple flowers dangle above the deep green bristled foliage. Russian comfrey is thought to have a higher pyrrolizidine alkaloid content than the species. *S. officinale* (page 65) is preferred for making herbal medicines. Easy-to-grow vigorous plant demands space and if the roots are disturbed *can be very invasive; be careful where you plant it and control with regular harvest*. Plant 24" apart in well-drained soil, sun or shade. MOFGA-certified organic. Grown at Ripley Farm. Z3. **ME Grown.**

L743 ***A****: 1 for $7.25*
B*: 2 for $12.75*
C*: 3 for $17.25*

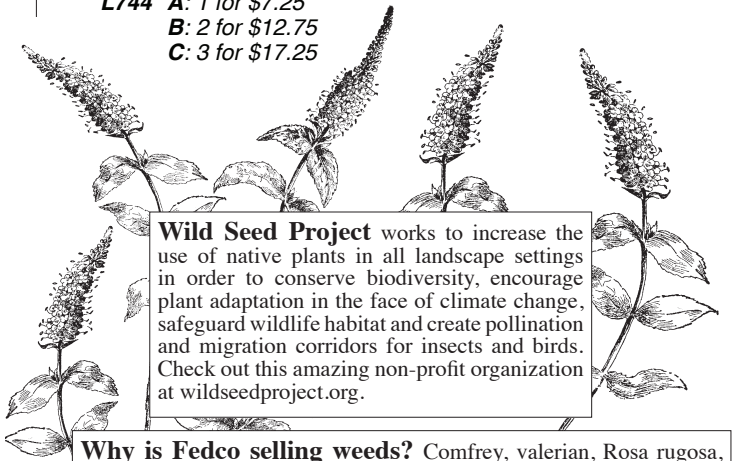
Ripley Farm's Russian Comfrey Compost Tea

We love the Bocking 14 Comfrey especially as a super garden fertilizer when fermented into a liquid concentrate. It's really easy to make: stuff a five-gallon bucket full of comfrey leaves that have been cut and slightly wilted in the sun for an hour or two. Fill the bucket to the top with water, loosely cover with a lid and let it steep for a couple weeks, stirring it every couple days. Then strain out the remaining solids, dilute 10:1 with water and spray on your garden as a great nutrient-rich growth booster.

–Gene & Mary Margaret Ripley of Ripley Farm, Dover-Foxcroft, ME

Veronicastrum virginicum **Culver's Root** 4–6' tall. Elegant towering North American native sends up large 9" flower spikes with densely clustered tiny white blossoms that open from the top down in early summer. Lance-shaped leaves form whorls on rugged upright stems that rarely need staking. Bees love this flower. Adds beautiful architecture to the back of the perennial border and is a requirement in any well-built rain garden. Plant 2' apart in full sun, in wet well-drained soil. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L744 ***A****: 1 for $7.25*
B*: 2 for $12.75*
C*: 3 for $17.25*



Wild Seed Project works to increase the use of native plants in all landscape settings in order to conserve biodiversity, encourage plant adaptation in the face of climate change, safeguard wildlife habitat and create pollination and migration corridors for insects and birds. Check out this amazing non-profit organization at wildseedproject.org.

Why is Fedco selling weeds? Comfrey, valerian, Rosa rugosa, blackberry, kiwi, horseradish… Some native, some not. Yep, they can become nuisances if we aren't careful. We weigh the pros and cons of each plant and aim to provide info that will help all of us to garden mindfully. Sometimes we learn something new in our evaluations and decide to take a plant out of the catalog. We hold on to others because we think they are amazing assets to our gardens, and with attention they can be cultivated and contained.

Companion Plants for the Orchard

Companion plants encourage natural processes that benefit the overall health and vitality of fruit trees. This means less work lugging sprayers, buying fertilizer, spreading compost and worrying about pollination. Orchard companions offer these benefits:

Beneficial Insect Attractors contain nectar sought by predatory insects like brachoni wasps, syrphid flies and lacewings that feed on tree pests.

Mineral Accumulators have long taproots that are thought to bring up minerals from deep subsoil. Cut the foliage, and use it to mulch around trees throughout the season to create nutrient-rich soil.

Living Mulches produce large quantities of organic matter that can be cut back and left to decompose around tree bases, enriching the soil.

Native Pollinator Plants are native to North America and attract native pollinators.

Nitrogen-Fixers transfer nitrogen from the air to the soil.

Pest Confusers have bitter aromas that confuse and deter insect pests.

A few considerations when planting in your orchard:

Once established, companion plants do not require a lot of care. Planting companions in groups, masses or hedges is often more effective than planting individuals. Think nature! Plant woody shrubs and beneficial insect attractors along orchard borders where they can flower and thrive undisturbed out of the way of the mower. Living mulches, mineral accumulators and herbaceous nitrogen fixers can be placed closer to trees.

Top Orchard Companion Plants for 2020

Yarrow ***Achillea millefolium*** Living mulch. Rich in copper, nitrogen and phosphorus. Aromatic pest confuser with bitter aroma. Excellent addition to compost piles.

Lady's Mantle ***Alchemilla mollis*** Beneficial insect attractor. Low-growing spreading groundcover.

Marshmallow ***Althea officinalis*** Beneficial insect attractor.

Arnica chamissonis Beneficial insect attractor. Low-growing spreading groundcover.

Red Swamp Milkweed ***Asclepias incarnata*** Beneficial insect attractor.

Blue False Indigo ***Baptisia australis*** Nitrogen-fixing legume. Native pollinator plant.

Echinacea purpurea Beneficial insect attractor. Native pollinator plant.

Wild Geranium ***Geranium maculatum*** Beneficial insect attractor. Native pollinator plant. Low-growing spreading groundcover.

Hyssop ***Hyssopus officinalis*** Beneficial insect attractor. Aromatic pest confuser with bitter aroma, long used as a companion plant in gardens and orchards. Spreading groundcover.

Lovage ***Levisticum officinale*** Beneficial insect attractor.

Bee Balm ***Monarda*** **spp.** Living mulch. Native pollinator plant.

Comfrey ***Symphytum*** **spp.** Mineral accumulator and living mulch. Rich in nitrogen, potassium and calcium when cut to the ground for mulch. Adds to soil fertility; makes a mineral-rich foliar spray. Predatory pest habitat. Nearly impossible to eradicate: plant it where you want it forever at least 4–15' away from the base of the tree.

Herbaceous Medicinals

The following plants have long histories of traditional medicinal use. It's up to you to educate yourself about the safety and efficacy of using plants for medicinal purposes. The statements in our catalog regarding traditional medicinal uses of plants have not been evaluated by the FDA. The plants we sell are not intended to diagnose, treat, cure, or prevent any disease.

Plants may take a year or more to establish before they flower; roots often take several years to reach harvestable maturity. The organic listings are all certified by MOFGA.

Achillea millefolium **Yarrow** 24" tall. Named for its use by Achilles to staunch battle wounds, has a centuries-old tradition of use as an external styptic. A natural anti-inflammatory, yarrow has been used by women to regulate the menstrual cycle, reducing heavy bleeding and easing period pain. Yarrow is often used in combination with other herbs as a cold remedy and to reduce fever. Infusion of flowering tops stimulates healthy digestion and improves circulation. White flat-top flower clusters bloom June through September. Excellent orchard companion and beautiful addition to the perennial border, meadow, herb or moon garden. Plant 18–24" apart in full sun and well-drained soil. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L745 ***A****: 1 for $7.25* ***B****: 2 for $12.75* ***C****: 3 for $17.25*

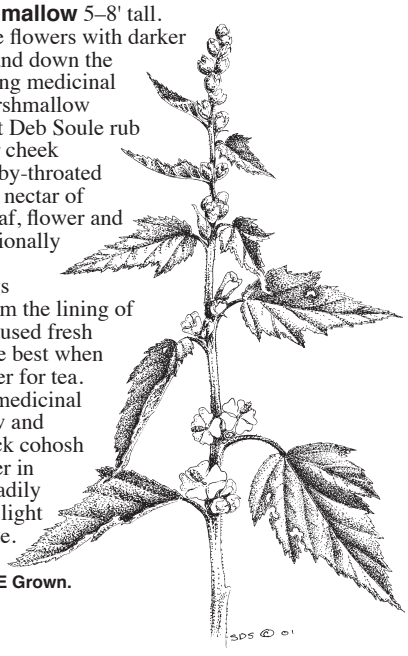
Actaea racemosa **Black Cohosh** 6–10' tall. Also known as **Black Snakeroot** or **Fairy Candles**; formerly known as *Cimicifuga racemosa*. This North American native provides the ultimate backdrop for the lightly shaded woodland garden. From late July into August, long arching racemes of creamy white and gold serpentine flower spikes soar over a 3–4' mound of fine-textured green compound foliage. Diuretic and anti-inflammatory. Anti-spasmodic for cramps, pains, cramped nerves and emotions, included in many premenstrual and perimenopausal formulas. Roots contain salicylic acid. Pregnant women avoid. Prefers part shade, but tolerates full sun in deep moist soil. Grows well in wet spots. Develops large clumps of rootstock so give it room to spread. Plant 3' apart in rich moist soil, part sun, part shade. Our stock is sustainably grown by Joanna Linden at Shooting Star Farm in Canaan. Z3. **ME Grown.**

L746 ***A****: 1 for $8.50* ***B****: 2 for $14.50* ***C****: 3 for $19.75*

Alchemilla mollis **Lady's Mantle** 12–18" tall. Enchanting tiny fans of leaves emerge in early spring and unfold into a mound of rounded fan-creased silvery grey-green foliage. Sprays of tiny yellow-green stars bloom on 15" tall stalks above the foliage. Most herbals list the medicinal variety as *A. vulgaris*; ornamental growers list this very similar species as *A. mollis* in this botanically bewildering genus. *A. vulgaris* tends toward a looser more spreading habit than the tighter more upright *A. mollis*. Both varieties have traditionally been used as a poultice to tone and firm breast tissue and to promote fertility. Lady's Mantle has a new claim to fame as an orchard companion plant. When planted at the base of old apple trees, this shade-loving plant attracts hordes of beneficial insects and acts as a beautiful low spreading groundcover. Prefers part shade. Plant 12" apart in moist soil. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L747 ***A****: 1 for $7.25* ***B****: 3 for $17.25* ***C****: 6 for $31.00*

Althaea officinalis **Marshmallow** 5–8' tall. Small delicate lavender-white flowers with darker lavender stamens appear up and down the stalks of this beautiful towering medicinal plant. I've been drawn to marshmallow ever since I watched herbalist Deb Soule rub its soft velvet leaf against her cheek and explain how much the ruby-throated hummingbird appreciates the nectar of marshmallow flowers. The leaf, flower and mucilagenous roots are traditionally used to soothe the mucous membrane linings of the lungs and digestive tract, and to calm the lining of the urinary tract. Leaf is best used fresh for tea, and the dried roots are best when soaked overnight in cool water for tea. Harvest 4-year-old roots for medicinal use. Wonderful in a hedgerow and magnificent planted with black cohosh as they often blossom together in late July and into August. Readily self-sows. Plant 1–2' apart in light moist soil, part sun, part shade. MOFGA-certified organic, grown at Ripley Farm. Z4. **ME Grown.**

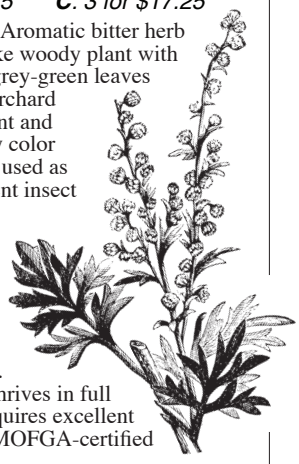


L748 ***A****: 1 for $7.25*
B*: 2 for $12.75*
C*: 3 for $17.25*

Arnica chamissonis Low spreading groundcover with bright yellow daisy-like flowers used externally in oils and salves to treat bruises, sprains and inflammation. Never take internally except in homeopathic doses. In the right conditions a few plants will develop into a dense long-lived patch. Beneficial insect attractor. Blooms in July. Grows successfully in our climate and is a generally accepted medicinal substitute for *A. montana*. Plant in full sun 1' apart in moist well-drained soil. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L749 ***A****: 1 for $7.25* ***B****: 2 for $12.75* ***C****: 3 for $17.25*

Artemisia absinthium **Wormwood** 3' tall. Aromatic bitter herb native to Europe. Beautiful branching shrub-like woody plant with tall stiff stems and alternate finely cut silvery-grey-green leaves covered with silken white hairs. Useful as an orchard companion—foliage has a strong sage-like scent and acts as an aromatic pest confuser. Adds a frosty color to the back of a perennial border. Traditionally used as a digestive stimulant, mild antidepressant, potent insect repellent, and treatment for intestinal parasites. Notorious as the source of absinthe, an addictive and controversial drink, wildly popular in the 19th c. Legal contention swirls around the thujone content in drinks and herbal preparations flavored with wormwood essential oil, which is known to be safe only in minute doses and potentially toxic in excess. Deadhead to prevent unwanted self-seeding. Thrives in full sun and poor dry soils. Plant 24–36" apart. Requires excellent drainage. *Cannot ship to CO, ND, SD or WA*. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**



L750 ***A****: 1 for $7.25* ***B****: 2 for $12.75* ***C****: 3 for $17.25*

Astragalus membranaceus **Chinese Milk Vetch** 18–36" tall. Important Chinese medicinal known as ***huang qi***. Deep-rooted leguminous plant forms an upright bush with many stems, each thickly covered with tiny pinnate leaves and small arching racemes bearing rows of whitish-yellow flowers. When used over many months, is known to rebuild the immune system while combating exhaustion. Long-term tonic use is believed to increase stamina and improve resistance to cold temperatures. Harvest 4- to 6-year-old roots in fall. Plant in full sun, 12" apart in deep gravelly well-drained soil. MOFGA-certified organic, grown at Ripley Farm. Z4. **ME Grown.**

L751 ***A****: 1 for $8.50* ***B****: 2 for $14.50* ***C****: 3 for $19.75*

Codonopsis pilosula **Poor Man's Ginseng** Vines up to 6' long. Unique pendulous green-to-pink flowers with purple veining decorate tendrilly twining vines with small ovate dark green leaves. Blossoms mature into 5-sided balloon-like seed pods. Considerably easier to grow than true ginseng and milder in effect. Energizing, adaptogenic, strengthens the respiratory system, and supports the immune system. Harvest 3- to 6-year-old roots in fall once the aerial parts have died back. Plant in sun to part shade, with good drainage. MOFGA-certified organic, grown at Ripley Farm. Z4. **ME Grown.**

L752 ***A****: 1 for $7.25* ***B****: 2 for $12.75* ***C****: 3 for $17.25*

Echinacea purpurea **Purple Coneflower** 3–5' tall. *Echinos* means 'spiny' and the coneflower's spiny seedheads are a beautiful coppery yellow-brown, surrounded by a single row of reflexed lavender-purple petals. This North American native attracts butterflies and other beneficial insects. Tincture the roots of 3-year-old plants for a remedy that gives an immediate boost to the immune system; use it when you feel a cold or flu coming on. Tolerates wind, heat and drought once established. Will reseed abundantly. Plant 20–30" apart in full sun and light sandy soil. Sustainably grown at Shooting Star Farm. Z3. **ME Grown.**

L753 ***A****: 1 for $7.25* ***B****: 2 for $12.75* ***C****: 3 for $17.25*

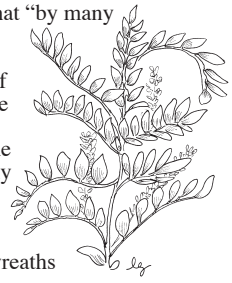
Eupatorium perfoliatum **Boneset** 5–7' tall. Also called **Thoroughwort**. Majestic North American native with flat-topped clusters of creamy-white to milky-lavender flowerheads atop fuzzy upright stems with deeply veined dark green diamond-shaped perfoliate leaves. Traditionally used to alleviate the symptoms of "breakbone fever," a highly infectious disease known to cause extreme fever and aching pain that travels deep into the bones—hence the name boneset. Tincture of the flowering tops and leaves induces sweating, stimulates the immune system and acts as a mild anti-inflammatory. North American Indians and early colonial settlers administered boneset tea during flu epidemics, and its common use continued well into the 20th century. Peak bloom is mid to late August, providing a generous late-season supply of nectar for adult butterflies and other pollinating insects. Boneset is a practical and fetching addition to the wilder part of the orchard and perennial border. Plant 3' apart in moist soil and full sun to dappled shade. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L754 ***A****: 1 for $7.25* ***B****: 2 for $12.75* ***C****: 3 for $17.25*

Eutrochium maculatum **Spotted Joe Pye Weed** 4–7' tall. If there were a Best in Show competition for native wildflowers, this one would take the cake for character. Considerable deep-green toothed and lance-shaped leaves whorl in sets of five around sturdy unbranched bewhiskered purple-spotted stems. Whimsical flat-topped terminal flower clusters with feathery lavender-rose disc florets dance on top. Blooms take the stage in mid-July and perform well into August, attracting a plethora of pollinators. Blossoms mature into soft tawny seed clusters that add unique interest to the winter lanscape. Readily spreads from seed and underground rhizomes, so plant it thoughtfully if you are working in a micro-landscape. Prefers full sun and rich moist soils. MOFGA-certified organic, grown at Ripley Farm. Z4. **ME Grown.**

L755 ***A****: 1 for $7.25* ***B****: 2 for $12.75* ***C****: 3 for $17.25*

Glycyrrhiza glabra **Licorice** 3–4' tall. Sweet and soothing roots are used to revitalize adrenal glands, treat colds and bronchitis, reduce throat irritation, yet act as an expectorant and anti-spasmodic. Adds sweetness, harmony and palatability to nearly every herbal combination. *Culpeper's Complete Herbal* from 1653 advises that "by many years continuance in a place without removing… will bring forth flowers, many standing together spike fashion, one above another upon the stalk, of the form of pease blossoms, but of a very pale blue colour." Leguminous plant fixes nitrogen. Give it lots of room and keep it weeded so it can create the roots and runners you want. Roots penetrate deeply and take complete possession of the soil. Runners sometimes travel great distances before sending up a shoot—if the soil is loose you can pull up errant runners, coiling them like rope to hang in wreaths above the woodstove, convenient for winter teas. You can interplant small vegetables like onions, lettuce and beans during the first and second years of growth as licorice fills in. Plant 24–36" apart in sandy well-drained soil. Full sun. Mulch to prevent heaving. Roots attain harvestable size in 3 to 4 years. MOFGA-certified organic, grown at Ripley Farm. Z4. **ME Grown.**



L756 ***A****: 1 for $7.25* ***B****: 2 for $12.75* ***C****: 3 for $17.25*

Herbs for Winter

While we're busy putting up vegetables for winter, it's worth our while to make some time for medicinals. Herbs help keep the immune system healthy when we need it most. Rumaging through the tea cabinet on a cold snowy day, I'm appreciative when I see the vibrant colors of the dried plants that I made time to harvest a few months before. Aromatherapy fills the room when teas are steeping. While twigs of white pine and sweet birch can be harvested fresh for tea during winter, we harvest most medicinals in summer and fall, and we dig roots as late as possible, usually October or November, when they are most potent. We start harvesting rose petals and lavender in June and July. This is when you would harvest linden, too, if you can reach the sweetly scented flowers high up in the branches.

Here are a few herb essentials to harvest and dry on screens. While the herbs listed here are fairly benign, it's always advised to consult with your doctor or herbalist before introducing anything new to your diet:

Astragalus root (*Astragalus membranaceus*)
Boneset leaf and flower (*Eupatorium perfoliatum*)
Chocolate Mint leaves (*Mentha* x *piperita*)
Codonopsis root (*Codonopsis pilosula*)
Echinacea root (*Echinacea purpurea*)
Elderflowers (*Sambucus canadensis*, *S. nigra*)
Hops (*Humulus lupulus*)
Hyssop leaf and flower (*Hyssopus officinalis*)
Lemon Balm leaf and flower (*Melissa officinalis*)
Licorice root (*Glychhriza glabra*)
Linden flowers (*Tilia americana*)
Munstead Lavender (*Lavendula angustifolia*)
Rose petals and hips (*Rosa rugosa*, *R. gallica*)
Schisandra berries (*Schisandra chinensis*)
Sweet Birch leaves (*Betula lenta*)
Wild Bergamot leaf and flower (*Monarda fistulosa*)

Hyssopus officinalis **Hyssop** 12–20" tall. Vivid blue-violet double-lipped flowers on spikes blossom from June through September. Infusions of the pleasantly skunky dark green leaves and flowering tops are traditionally used as tea or made into syrup to ease digestion and treat chronic respiratory infections after they have peaked. Hyssop increases the production of liquid mucus and acts as an expectorant. Thrives in dry soil, useful on slopes and any sunny difficult place. Makes a beautiful low hedge that will draw bees from far and wide. Plant 12–24" apart in poor soil, full sun to light shade. Sustainably grown by Lauren Cormier. Z3. **ME Grown.**

L757 ***A****: 1 for $7.25* ***B****: 2 for $12.75* ***C****: 3 for $17.25*

Lavandula angustifolia **'Munstead' Lavender** 16–18" tall. Considered the hardiest lavender with light lavender flowers. Sweet-scented flower spikes extend above aromatic silvery-green lanceolate leaves. Blooms all summer. Makes a nice border, rockery, slope or specimen plant. Compact habit lends itself to edging walkways. Traditionally used to calm nervous excitability and relieve muscle tension. Plant 12–24" apart in full sun, in moist well-drained soil. Mulch to prevent winter heaving. Z4.

L758 ***A****: 1 for $8.50* ***B****: 2 for $14.50* ***C****: 3 for $19.75*

Levisticum officinale **Lovage** 6' tall. Looks like a giant celery plant with toothed compound leaves, greenish-yellow umbelliferous flowers and small oval seeds. A dramatic architectural element for an edible border; attracts beneficial insects. Glossy green leaves have a strong celery taste and can be used to flavor soups, stews and casseroles. Crush seeds and add to bread and pastries; candy the stems and roots into a sweet medicinal syrup that is said to restore the appetite and revive the love of life. Second-year plants are best for drying. Formerly used to mask the bitter herbs in medicinal concoctions. Pregnant women avoid. Plant 24–36" apart in full sun to part shade in rich moist well-drained soil. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L759 ***A****: 1 for $6.50* ***B****: 2 for $11.25* ***C****: 3 for $15.25*

Melissa officinalis **Lemon Balm** 24" tall. The Greek word *Melissa* means 'honeybee'; the plant in flower attracts them. Yellow-green scalloped lemony leaves are delicious in teas, salads, with fruit, or dried for sachets. Infuse leaves in olive oil for a potent lemony anti-viral infused oil that's great for topical creams and salves. Plant in full sun in rich well-drained soil. MOFGA-certified organic, grown at Ripley Farm. Some say Zone 4, but the clump we planted in Zone 3 has been coming back strong for 10 years. **ME Grown.**

L760 ***A****: 1 for $6.50* ***B****: 2 for $11.25* ***C****: 3 for $15.25*

Mentha piperita **Chocolate Mint** 18–24" tall. Our favorite mint! Bright sweet refreshing peppermint-patty flavor is a must-have for any winter dried-herb supply. Freshen your breath, settle your stomach, brighten up fruit desserts, garnish ice cream, flavor your favorite meat dish, or scent soaps and salves. In March and April our hard-working crew devours at least 3 pounds of Andes candies per week! In a healthier turn of events, we grew chocolate mint to enjoy during our tea breaks and to add to our communal hot cocoa pot. Harvest the leaves before it goes to flower. As with any mint, plant it where you want it forever. Plant in full sun in any decent garden soil. MOFGA-certified organic, grown at Ripley Farm. Some say Z5, although many of us have unstoppable patches in Z4. **ME Grown.**

L761 ***A****: 1 for $6.50* ***B****: 2 for $11.25* ***C****: 3 for $15.25*

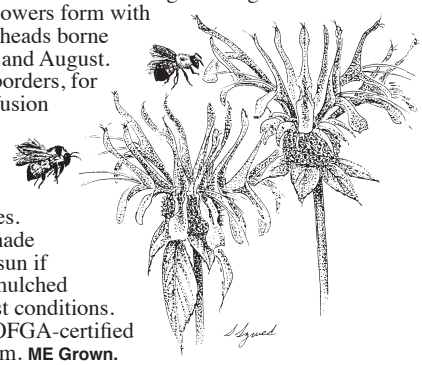
Recon

Icicle rains turn green meadows grey
Puckerbrush shadows shift and twitch
Cautious bobbing heads peek and peer from stone wall barricades
Silken feathered soldiers slip stealthily through the garden gate
for rusted bee balms gone to seed
–Laura Childs

Each year a flock of wild turkeys comes to scope out our bee balm and echinacea patches. They appear in late November and return every few weeks to check on their winter seed supply—snacking on seeds here and there but never enough to wipe it out completely. There is always enough seed left behind to feed our other winter visitors.

In January 2019, a whitetail doe and her twins visited our gardens to munch on the green clovers just below the snow. They quickly discovered scads of bee balm and echinacea seedheads peeking out just above the crust. For the next two weeks our gardens became a regular stop on their daily rounds. Plenty of seeds were dispersed while they munched and browsed and we saw cardinals, goldfinches and bullying blue jays drop by to forage on the seeds left behind. Somehow our patch grows bigger year after year, and we are happy to share the harvest.

Monarda **Bee Balm** Also called **Bergamot** or **Oswego Tea**. Beloved by bees, butterflies and one of the best hummingbird magnets nature has to offer! Wild and wily flowers form with tubular petals on pincushion heads borne above colorful bracts in July and August. Aromatic foliage. Good for borders, for wet areas and for cutting. Infusion of the aerial parts can be used to improve digestion by reducing flatulence. Delicious used as tea or added to meat and bean dishes. Plant 16–20" apart in light shade in moist soil. Thrives in full sun if given adequate moisture or mulched with leaf mold; tolerates most conditions. All of this year's stock is MOFGA-certified organic, grown at Ripley Farm. **ME Grown.**



M. bradburnia **'Bradbury's Monarda'** 2' tall. Also called **Bradbury's Bee Balm**. Midsummer blooms display whorls of pale pink petals speckled with dark purple spots. Shorter and more compact than *M. fistulosa*. Foliage looks good well into autumn here in central Maine. Z5.

L762 ***A****: 1 for $7.25* ***B****: 3 for $18.25* ***C****: 6 for $33.00*

M. didyma **'Panorama Reds'** 3–4' tall. Fabulous blooms in a diverse range of red shades destined to attract scads of butterflies and hummingbirds for your cats and kids to chase in vain. Z3.

L763 ***A****: 1 for $7.25* ***B****: 3 for $18.25* ***C****: 6 for $33.00*

M. fistulosa **Wild Bergamot** 2–4' tall. Our native wildflower species with aromatic lavender blossoms. This is the species most commonly used for medicinal purposes. Z3.

L764 ***A****: 1 for $7.25* ***B****: 3 for $18.25* ***C****: 6 for $33.00*

M. punctata **Spotted Bee Balm** 2–4' tall. Also called **Dotted Horsemint**. Peculiar fragrant double-decker blossoms display multiple colors of pinkish-purple, greenish-beige and maroon, embellished with tiny burgundy spots. The actual flower heads are relatively small but stacked up on the stem and held by bracts that resemble petals. Native to the eastern U.S., from Vermont south to Florida and west into Texas. Drought tolerant, but blooms better with consistently moist soil. Plant in full to part sun in sandy soil. Z3.

L765 ***A****: 1 for $7.25* ***B****: 3 for $18.25* ***C****: 6 for $33.00*

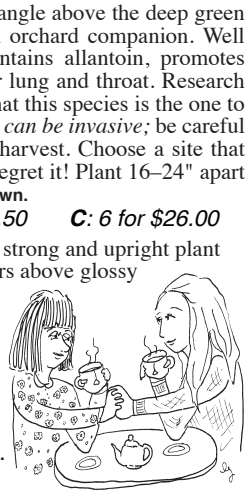
Platycodon grandiflorus **Balloon Flower** 15–40" tall. In mid- to late summer, fascinating balloon-like buds burst into royal blue bell-shaped flowers delicately set upon upright stems above the foliage. Makes a nice cutflower. Clump-forming. Called ***jie geng*** in China and is widely used in Chinese medicine. Roots have astringent and expectorant properties making it a common remedy for cough, sore throats, lung and skin conditions. Roots of plants 2–3 years old are harvested in the spring or autumn, peeled and used fresh or dried. Correct dosage is important so consult your local herbalist if you intend to use as an herbal remedy. Plant in full sun to part shade in cool, moist, well-drained soil. Emerges slowly in spring. MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**

L766 ***A****: 1 for $6.75* ***B****: 3 for $17.25* ***C****: 6 for $31.00*

Symphytum officinale **Comfrey** 24–48" tall. Also called **Knitbone**. Clusters of bell-like pinkish purple flowers dangle above the deep green bristled foliage. Highly recommended as an orchard companion. Well known for its skin-soothing properties. Contains allantoin, promotes healing of skin and bone; also demulcent for lung and throat. Research on comfrey is inconclusive, but most agree that this species is the one to use medicinally. Easy-to-grow vigorous plant *can be invasive;* be careful where you plant it and control with regular harvest. Choose a site that will never see a rototiller or you will live to regret it! Plant 16–24" apart in well-drained soil, sun or shade. Z3. **ME Grown.**

L767 ***A****: 1 for $5.75* ***B****: 3 for $14.50* ***C****: 6 for $26.00*

Valeriana officinalis **Valerian** 2–4' tall. A strong and upright plant with small white or rosy flowers in flat clusters above glossy pinnate leaves. Roots traditionally used as an anti-spasmodic, nervine and sedative. Often used for sleeplessness, anxiety and other nervous complaints. Divide or harvest thick rootstock every 4 to 5 years. Plant 12–15" apart in moist well-drained soil in full sun. *We cannot ship to CT.* MOFGA-certified organic, grown at Ripley Farm. Z3. **ME Grown.**



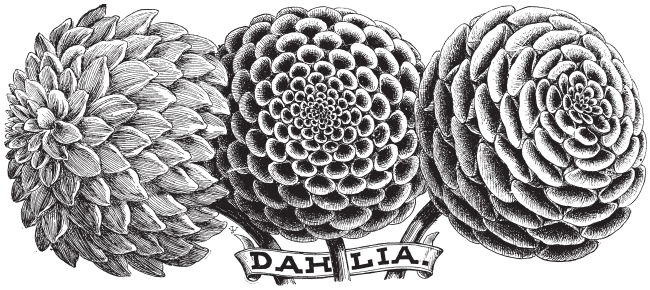
L768 ***A****: 1 for $7.25*
B*: 2 for $12.50*
C*: 3 for $16.75*

Tender Summer Bulbs

Spring-planted bulbs offer wonderful variety to the cutflower market and are a staple in old-fashioned gardens. Once upon a time, back roads beckoned my mother to spend many a summer Sunday in search of the best deal on roadside dahlias, glads and lilies. Every few miles she would find buckets brimming with blooms for 10¢ a stem. Nowadays it's more like $1. Spring-planted bulbs are not hardy to northern climes. Smart and thrifty people lift and store them over the winter; the rest of us treat them as annuals.

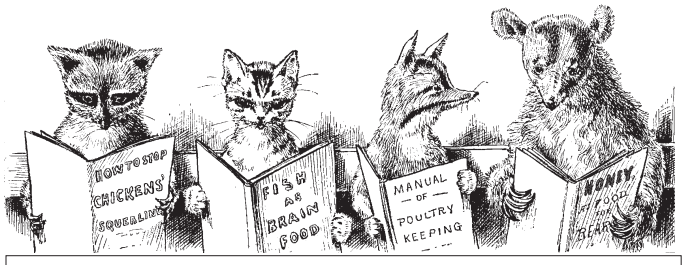
***Crocosmia* x *crocosmiiflora* 'Lucifer'** 24–36" tall. Glows in the garden! Midsummer sprays of bright red flowers open from bottom to top on long arching bronze stems, like bursts of flame above gladiolus-like foliage. *Lucifer* is Dutch for 'match.' Grows well in pots. Makes a long-lasting cutflower. Plant in full sun, 3" deep, 3" apart in moist well-drained soil.

L769 ***A****: 10 for $7.00* ***B****: 20 for $12.25* ***C****: 50 for $27.50*



***Dahlia* Rustic Sunset Dahlia Mix** 36–46" tall. Colors in this mix will range from deep plum purple, dark burgundy, bronzy orange, rustic red, luminous coral and dusky antique pink. Provides endless displays of breathtaking blossoms from midsummer till frost, adding incredible late-season value to the cutting garden. Native to hot parts of the Americas and first developed as a food crop, ornamental dahlias are descended from years of breeding and crossing *D. pinnata* and *D. juarezi*. To overwinter, dig tubers before the last frost, dry them off and store them in a well-ventilated cool (35–45°) dark dry place. In spring after danger of frost, plant 3–4" deep, 12–24" apart. Set the tubers flat with eyes facing up. Grows best with 3–4 hours of direct sun per day, but will tolerate conditions from full sun to light shade. This year's stock is MOFGA-certified organic, brought to us by the hardworking Tania Cubberly and Adam Lemieux of Skyfall Flowers. **ME Grown.**

L770 ***A****: 3 for $17.25* ***B****: 6 for $30.00* ***C****: 12 for $54.00*



Winter reading recommendations

Suffering from reader's block? Here are winter reading recommendations from our catalog crew:

A Guide to Nature in Winter by Donald W. Stokes
In Praise of Shadows by Junichiro Tanizaki
Malus (a quarterly print zine about cider; subscribe at maluszine.com)
The Organic Medicinal Herb Farmer by Jeff and Melanie Carpenter
Merry Men and *Treat us Like Dogs and We Will Become Wolves*, both novels by Carolyn Chute
My Garden (Book): by Jamaica Kincaid
Native Trees, Shrubs, & Vines by William Cullina
The Principles of Fruit-Growing by L.H. Bailey
Ravens in Winter and *Winter World*, both by Bernd Heinrich
Sprout Lands by William Bryant Logan
Things That Are by Amy Leach
Uncultivated by Andy Brennan
The Wild Apple Forager's Guide by Matt Kaminsky
Winter Hours by Mary Oliver
The World of Northern Evergreens by E.C. Pielou

***Gladiolus* Sword Lily** 36" tall. Showy summer bloomer excels as a cutflower. Each stalk is covered with 10 or more open funnel-shaped flowers that bloom from bottom to top. Named for their sword-like leaves; a gladiolus is a small Roman sword. Each stalk blooms for about a week, roughly 8 weeks after planting.

***G.* Blue Moon Mix** Brilliant blue-violet color combinations for your cutflower fantasies.

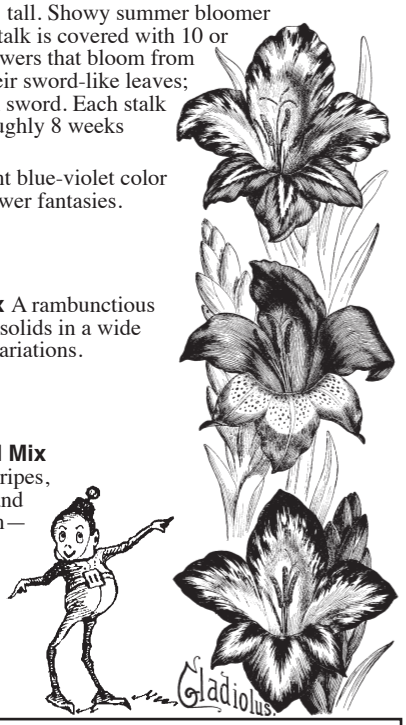
L771 ***A****: 10 for $7.25*
B*: 20 for $12.75*
C*: 50 for $28.00*

***G.* Purple Patchwork Mix** A rambunctious combination of bicolors and solids in a wide range of purple shades and variations.

L772 ***A****: 10 for $7.25*
B*: 20 for $12.75*
C*: 50 for $28.00*

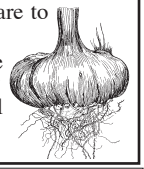
***G.* Large-Flowering Glad Mix** A mercurial mix of colors, stripes, stipples, bicolors, tricolors, and everything else under the sun—what fun!

L773 ***A****: 10 for $5.25*
B*: 20 for $9.00*
C*: 50 for $20.50*



Growing Gladiolus

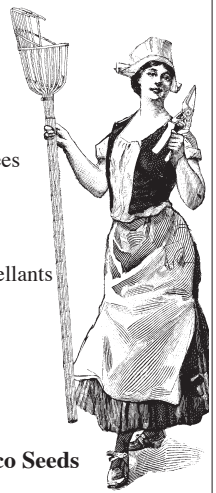
- After the last spring frost, plant corms in full sun 5" deep and 8" apart.
- Stagger plantings for a long season of blooms: First planting in early to mid-May, then again every two weeks through mid June. This schedule will keep the flowers coming July through August.
- Hill or stake the corms at planting time to keep the plants from keeling over when the foliage and flower spikes get top heavy.
- Mulch with straw to retain even moisture and prevent weeds.
- Cut the stalks when 2–3 blossoms have opened, taking care to spare the leaves, which feed the developing corm.
- To overwinter the corms: dig them up after the tops have died, discard the old one, clean the new one, allow it to dry off, and store them in paper bags in a well-ventilated cool (35–45°) dark dry place.



Top-Quality Orchard and Horticultural Supplies Available Year-round at Organic Growers Supply!

Come pick up supplies at our Organic Growers Supply warehouse on the Bellsqueeze Road in Clinton, ME, or order online at fedcoseeds.com/ogs or through our paper Seeds & Supplies catalog to have these orchard essentials shipped to you.

- Grafting Tools, Kits & Supplies for righties and lefties
- Felco Pruners & Pruning Saws
- Silky Pruning Saws
- Ratcheting Pruners & Loppers
- Telescoping Fruit Picker
- Deluxe Picking Bucket & Harness
- Soil Testing & Fertilizer Recommendation Service
- Blueberry Booster Mix for planting and fertilizing
- Ancients Rise Fertilizer Mix revitalizes old fruit trees
- Fruition Mix for fertilizing established fruit trees
- Fall Fruit Tree Prep Mix
- Hole-istic Spring Planting Mix
- Traps, Lures & Sprays for orchard pests
- Fencing, Netting, Tree Guards & other mammal repellants
- Holistic Orchard Spray Kit (à la Michael Phillips!)
- SOLO® Backpack Sprayer
- Wollastonite—soluble-grade calcium silicate
- Neem & Karanja Oils
- Orchard Crop Irrigation Starter Kit
- Orcharding Books
- And more!



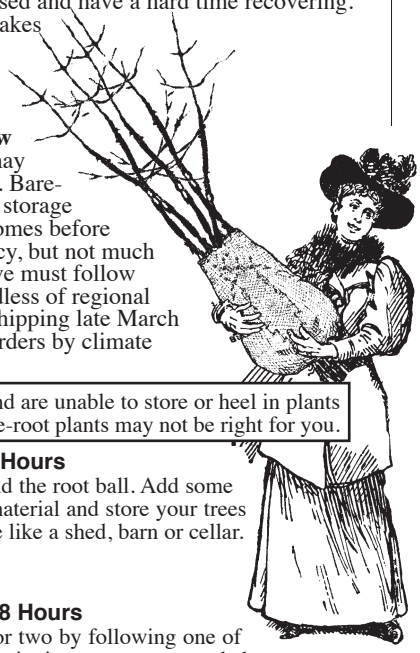
Organic Growers Supply and Fedco Seeds warehouses are open
Tuesday, Wednesday & Thursday from 9 to 3 year-round.
(Holidays and rare exceptions are noted on our website.)

When you get your order: Immediate Care

DO NOT ALLOW ROOTS TO DRY OUT AT ALL!!!

When your new trees and shrubs arrive, they need to be planted as soon as possible. Don't be deterred by snow. If you can dig a shovel into the ground, plant your trees. If you wait until spring is in full swing, your plants might become stressed and have a hard time recovering.

Sometimes frozen ground makes immediate planting impossible. When this is the case, follow the instructions below and all will be well. **Why do we send plants even when there is snow on the ground?** The weather may be fickle but we must be steady. Bare-root plants need to move out of storage and travel to their permanent homes before or as they are breaking dormancy, but not much later. For our system to work, we must follow a tight shipping schedule regardless of regional weather conditions. We begin shipping late March and finish mid-April, sending orders by climate zones, warmer zones first.



If you can't plant immediately and are unable to store or heel in plants as instructed below, ordering bare-root plants may not be right for you.

Planting Woodies Within 48 Hours

Leave the plastic wrapping around the root ball. Add some water to remoisten the packing material and store your trees and shrubs in a cool shaded place like a shed, barn or cellar. Avoid heat and sunlight.

If You Cannot Plant Within 48 Hours

You can keep plants for a week or two by following one of these temporary measures and continuing to water as needed:

• Open your package and inspect for damage. Fold the plastic back from around the tops. Keep the wet shredded newspaper around the roots and re-wrap the plastic around the root ball, packing firmly to eliminate air pockets. Water as needed to keep the roots moist, but don't let them stand in water. Keep the trees in a cool shaded or dark place like a shed, barn, cellar or garage, but don't allow the plants to freeze before you get them in the ground. Avoid heat and sunlight.

• You could also "heel in" your plants temporarily in a protected cool shady spot. Dig a trench or turn back an appropriate amount of earth and bury the roots; tamp firmly to remove air pockets. Water thoroughly. Plant as soon as possible.

Caring for Other Plants Until Planting Time

Asparagus

Store asparagus roots dry and uncovered in a cool shaded place.

Hops

Refrigerate slightly moistened rhizomes in a plastic bag until planting.

Horseradish & Rhubarb

Open package slightly to allow the plants to breathe. They should be fine left in their packaging and kept in a cool place (ideally 35–50˚). They want to stay moist but not wet.

Mushroom Spawn

Refrigerate in packaging until ready to use.

Strawberries

We ship with the roots slightly on the dry side. If it's going to be a while until planting, mist the roots and re-cover. Refrigerate until you are ready to plant. When it's time to plant, do it in the evening or on a cloudy day.

Herbaceous Perennials

Open bags and check the stock immediately. Roots and crowns should be firm and pliable, not squishy or brittle. Surface mold is harmless and will not affect the plant's future performance. Pot up crowns and roots; **do not plant directly outdoors.** If you cannot pot the crowns up immediately, store them in their packaging in a cool (35–40˚) location for a short time. **See page 55 for full perennial planting instructions.**

The Perfect Tree Label

Commercially available garden labels do not last. Permanent marker fades. Aluminum tears off in the wind. And so on. Now, we make our own using vinyl siding. It works so well, we should remove it from all the houses and make it all into plant labels. It's inexpensive, or easily salvaged, and you can make dozens from a single piece of siding. Cut siding into strips using a utility knife. Snip strips to length using hand pruners. Drill a hole at one end. Attach with wire. Write on labels with pencil, NOT a marker. Pencil will last for decades.

TREE PLANTING AND CARE

The basics of tree care outlined here are meant to get you started. Obviously, we can't tell you everything you need to know in a few pages. Some specific information, like location or soil preferences of particular plants, is in the item descriptions. A soil test is useful in determining the specific needs of your site. Fedco's Organic Growers Supply offers a soil testing and fertilization recommendation service. Learn more at fedcoseeds.com/ogs.

Reading, observation, trial and error, and talking with other growers and with extension agents can expand your knowledge of trees and shrubs. Consult the OGS book list for recommended reference books. Also, find useful links at our website, fedcoseeds.com/trees.

General Planting Directions for Trees and Shrubs

The best way to ensure your plants will thrive is to follow cultural requirements. Choose the right site for the plant. Add soil amendments only as needed. Many native plants don't require any fertilization. Fruit trees may need more. (See next page for fruit tree fertilization recommendations.)

To reduce transplant shock, plant on cool cloudy days in the early morning or late afternoon. Soak roots of deciduous trees and shrubs for up to 24 hours before planting, but not longer. Keep the roots from drying out; even a few minutes in the sun and breeze can kill a tree or shrub. Keep them watered and covered until the moment you set them in their planting holes!

Follow these steps for planting:

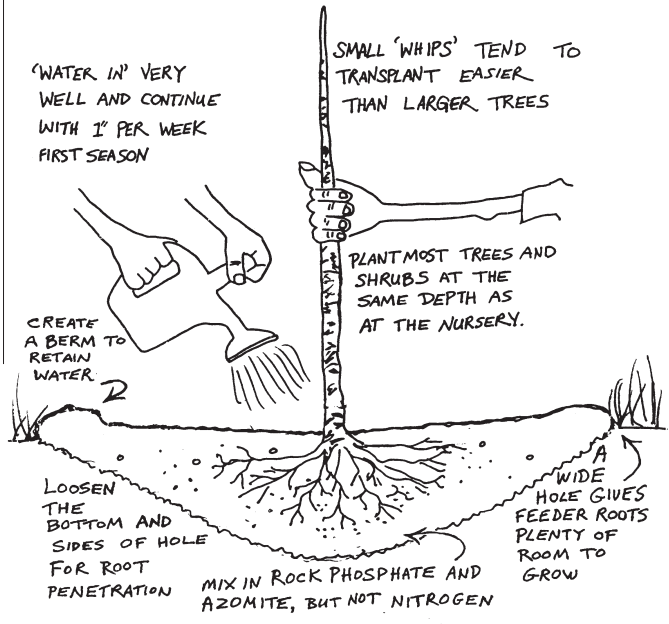
1. Dig a large hole, at least twice as wide and about as deep as the root system. Most roots grow laterally and need plenty of room to spread out. Your trees will benefit if the hole is at least 3' wide.

2. Loosen up the soil at the bottom of the hole and especially around the sides. For fruit trees, if you haven't used a deluxe fall preparation (see page 68), you may add a 3-lb bag of our planting mix (available in our **Seeds & Supplies catalog**, or at fedcoseeds.com/ogs), or well-aged compost and mineral fertilizers like rock phosphate or azomite, but *not* manure or other nitrogen sources. Incorporate into the soil, then make a mound at the bottom of the hole over which to spread the roots.

3. Examine the plant for a "dirt line" or a change in bark color indicating nursery depth. (This is different from the graft line.) Generally, you should plant trees and shrubs at the same depth they grew in the nursery. Set the plant in the hole and spread the roots out around the mound. Make sure the roots are not circling in the hole. It's better to trim roots a bit than coil them. Hold the plant at the right depth as you backfill the soil around it. Tamp firmly to remove air pockets.

4. Water immediately. Don't skimp on the initial watering; make sure there's plenty to settle in all the loosened soil. Wiggle the trunk as the water seeps in to ensure no air pockets remain around the roots. Leave a berm around each tree so water will not run off. Keep trees well watered throughout the first summer. They require the equivalent of 1–2" rain per week. A good soaking is effective; sprinkling is not.

5. To remember which varieties you planted, paint a map of the orchard on your wall, or replace the plastic Fedco plant tags with permanent vinyl tags. See below left.


'WATER IN' VERY WELL AND CONTINUE WITH 1" PER WEEK FIRST SEASON
SMALL 'WHIPS' TEND TO TRANSPLANT EASIER THAN LARGER TREES
PLANT MOST TREES AND SHRUBS AT THE SAME DEPTH AS AT THE NURSERY.
CREATE A BERM TO RETAIN WATER
LOOSEN THE BOTTOM AND SIDES OF HOLE FOR ROOT PENETRATION
MIX IN ROCK PHOSPHATE AND AZOMITE, BUT NOT NITROGEN
A WIDE HOLE GIVES FEEDER ROOTS PLENTY OF ROOM TO GROW

Choosing a Site for Fruit Trees and Berries

The best sites for fruit crops have well-drained fertile soils, protection from wind, good air drainage and full sun. A gentle slope and 6–8 hours of full sun per day is ideal. Good air flow will moderate frosts and fungal disease. If possible, avoid "frost pockets."

Sunny south- or west-facing slopes are not advisable for less hardy varieties. These slopes tend to warm up before the danger of frost has passed. Trees may flower prematurely and then be damaged by frost, causing loss of fruit. South and west slopes may also have widely fluctuating early spring temperatures that can damage less hardy trees.

Soil pH for fruit trees should be between 5.5 and 8.0, towards the lower end for apples, the higher end for peaches, and in the middle for others.

Fruit species have optimal space requirements. See chart, next page.

Do not plant trees where power lines will interfere with them.

Fall Preparation or Spring Initial Feeding for Fruit Trees

If you're interested in preparing locations for your trees this fall, or for feeding newly planted fruit trees, the following amendment recipe should address most sites in the eastern U.S., which tend to be acidic and moderate to low in calcium and phosphorus. To order any of these products, refer to our Seeds & Supplies catalog, or fedcoseeds.com/ogs.

Deluxe Fall Preparation Method

Without digging the hole, cover an area 4–6' in diameter with:

- 5 lbs gypsum or Hi-Cal lime
- 5 lbs colloidal phosphate (short-term calcium and phosphorus)
- 5 lbs azomite (long-term minerals and trace minerals)
- 5 lbs granite meal (for improved soil texture)
- 2 3 lbs Hum-Amend Max (aids mineral and rock-powder breakdown)

For building high levels of humus, also add:

- 2 lbs alfalfa meal
- 2 lbs bone char
- 2 lbs kelp meal
- 2 lbs blood meal
- 100 lbs compost (1/8 yard)

Cover with a 3–4" mulch of lawn clippings, leaves or brush chips, which will smother the sod, conserve moisture, prevent leaching and provide a habitat for soil organisms to break down the recipe. In the spring, pull back the mulch and dig your tree hole, incorporating the mineral supplements and compost into the backfill.

If you didn't get around to fall prep, you can apply this same mix as a mulch to your newly planted tree in the spring.

Simpler Method

Forgo the soil amendments and simply pile 1–2 wheelbarrows of compost on each planting-hole site. If you live by the ocean, add a couple wheelbarrows of seaweed. Then cover with mulch. In the spring, pull back the mulch and plant your fruit tree, incorporating the compost into the hole as you dig.

Feeding Older Fruit Trees

Cover the surface of the ground out to the tree's drip line with the same materials listed above. For larger trees (five years and older) increase the mineral amount to 10–15 lbs each. For ancient trees you can use up to 25 lbs of each mineral in a ring beneath the drip line.

For revitalizing older fruit trees, you could also consider using our Ancients Rise fertilizer mix, found at fedcoseeds.com/ogs.

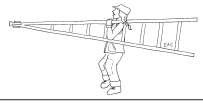
Mulch as described above.

Soil testing & organic fertilizer recommendation service

Which soil amendments do you choose and how much do you apply? Don't guess—test! Fedco can help. We'll send you a soil test kit and sampling instructions, plus a postage-paid box to return your soil sample and test form to the Maine State Soil Lab. Once your results are in, we'll offer customized recommendations for how to correct any deficiencies or imbalances in your soil. Cost is $45. **Learn more about this service in our Seeds & Supplies catalog**, or at **fedcoseeds.com/ogs**.

Orchard Ladders: Sturdy lightweight traditionally shaped wooden orchard ladders have wide bottoms for stability and narrow tops for easy handling and placement. Contact the manufacturer:

Peter Baldwin, (207) 722-3654
baldwinpetert@gmail.com
baldwinappleladders.com



Initial Pruning at Planting Time

All Trees and Shrubs

Prune any branches that were broken during shipping. Sometimes we need to prune a central leader in order to fit a tree into a shipping box; don't—worry a new leader will grow from the topmost bud. Prune all dead or injured branches and roots. Further pruning of most trees is not necessary at planting time.

Do not prune tops or prune or bend tap roots of nut or oak trees.

Find general information on pruning on p. 43. Conifers (p. 33), roses (p. 47) and lilacs (p. 50) benefit from special pruning especially in later stages of growth.

All Fruit Trees

Avoid pruning young trees except to establish a basic shape, as it delays bearing. It's okay to cut off extra trunks and large branches as needed, but keep in mind that every time you prune potential leaf-bearing branches from a young tree, you set it back. The tree will grow quickly and fruit sooner if you allow it to maximize photosynthesis. Once it begins to fruit, you can prune annually. Always remove suckers or root shoots.

On peaches and plums, the trees may want to develop 2–4 leaders, or an open-vase shape. Always prune just above a good strong bud that faces a direction you'd like your branch to grow. On apple and pear trees, you may choose to either leave the central leader alone and let it grow or cut it back according to the instructions below. Either way is acceptable; it's a matter of personal preference.

Apple Trees

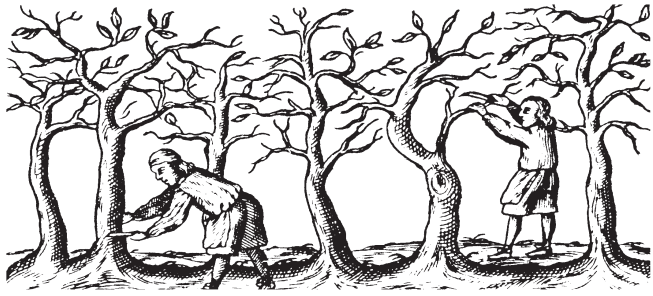
Apple trees will almost always benefit from light initial pruning to establish shape. After that, refrain from pruning until the tree begins to fruit.

• **Year one (initial planting time):** If the tree is a branch-less "whip," you may cut the top back to a strong bud about 3–4' from the ground. This will encourage branching. If the new tree arrives with branches, prune off all but 3–4 branches at the height you'd like for your first tier, about 3–4' from the ground, or higher if you prefer. The lowest scaffold (branch layer) should be very wide to collect as much sun as possible. If too low, these long branches will rest on the ground under the weight of fruit, and the deer will have a field day. Also, it becomes difficult to mow and mulch.

Some folks choose not to prune at the time of planting and wait to shape the tree in subsequent years. This method is fine, too.

• **Year two:** Trim off root suckers or other odd branches that come up from around the base. Otherwise, leave the tree alone and let it grow.

• **The next few years:** If something looks really crowded, broken or dead, prune it. Otherwise, leave your tree alone and let it grow. If you don't fuss over it too much, you'll get fruit sooner!



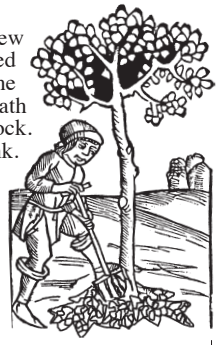
Pruning Established Fruit Trees

Once your fruit tree begins to bear, you should prune annually. Good pruning brings sunlight to all parts of your tree. Maximum sunlight encourages more and higher-quality fruit. Sunlight also encourages fruit buds to form for next year's crop. A well-pruned tree will produce larger fruit and will tend toward more annual bearing. Good pruning discourages fungal diseases and promotes greater spray penetration. There's an old saying that a bird should be able to fly through your fruit tree.

Most pruning should be done in late winter or early spring. We recommend a good-quality pair of hand shears and a lightweight pruning saw. You may also wish to invest in long-handled loppers, a pole pruner or a pole saw. Keep your pruning tools sharp for smooth clean cuts.

Any good book on growing fruit trees will have the information you need. Consult old and new books as well as orcharding articles and develop a system that works for you. Pruning is not difficult and will make a huge difference.

Mulch

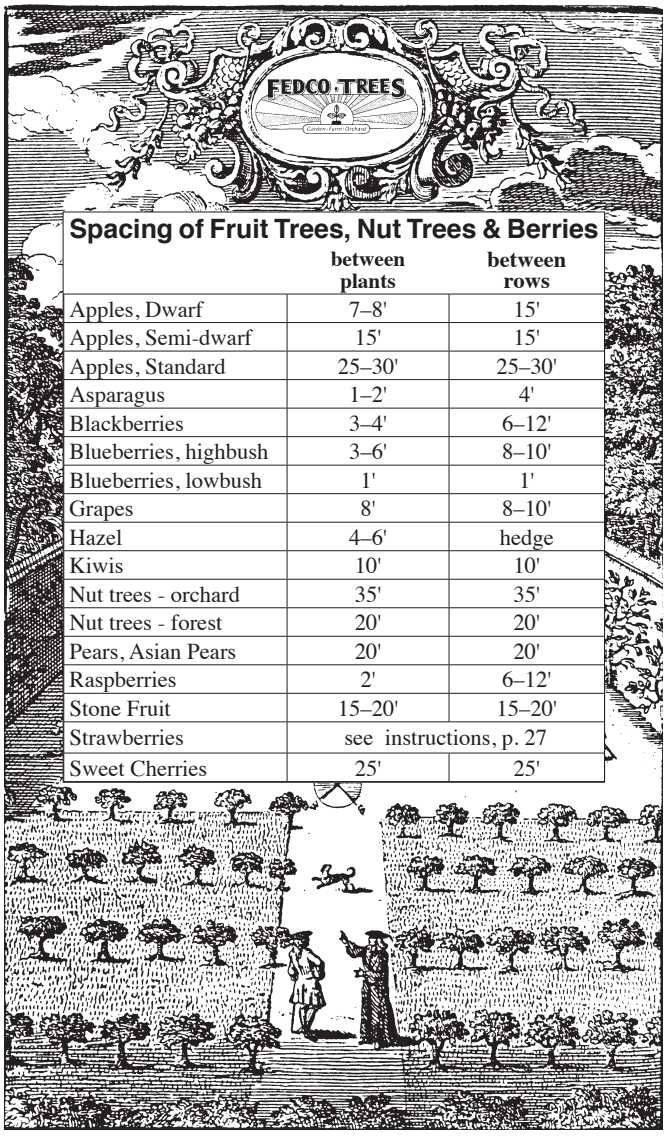


Keep weeds and especially grass away from new trees and shrubs. Apply a 2–4" mulch of composted material—leaves, wood chips or hay—out as far as the drip line. A 1/2–1" topdressing of alfalfa meal beneath the mulch may substantially reduce transplant shock. Keep mulch back several inches from the tree trunk. We lay down cardboard or newspaper and spread mulch on top of it. Mulch encourages earthworms, holds moisture, keeps down weeds, insulates against excess heat and cold, aerates and loosens soils, builds humus and fertilizes feeder roots, 90% of which are within 6" of the surface.

Staking

Newly planted standard-sized fruit trees and ornamental trees seldom need staking. Semi-dwarf and dwarf apple trees may require staking. If your tree is in a very windy site or develops a leaning habit, staking may help. Drive a stout post near the tree. Wrap the tree trunk with a scrap of burlap or rubber to protect against abrasion. Secure the wrapped part of the tree to the post with string or wire. Tie tree somewhat loosely, as a slight rocking motion will encourage rooting. Once roots are well anchored, the stake may not be needed. Mark small trees with a stake with ribbons to warn operators of lawn mowers, tractors, cars and skidders.

Some tree varieties naturally tend to grow a little crooked (like Redfield apple!), and they won't grow straight not matter how much room we give them in the nursery. To mitigate this issue, you may try staking. You may also try planting the crooked tree so the roots are at a slight angle and the top is more upward-pointing, as if to split the difference. Most trees do not grow perfectly straight. Retraining your eye to appreciate a tree's unique form may be easier than fighting nature.



Spacing of Fruit Trees, Nut Trees & Berries

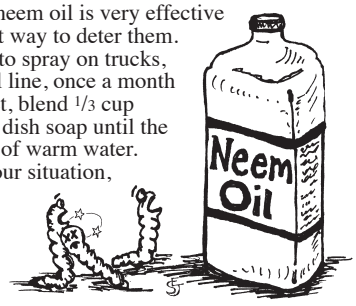
	between plants	between rows
Apples, Dwarf	7–8'	15'
Apples, Semi-dwarf	15'	15'
Apples, Standard	25–30'	25–30'
Asparagus	1–2'	4'
Blackberries	3–4'	6–12'
Blueberries, highbush	3–6'	8–10'
Blueberries, lowbush	1'	1'
Grapes	8'	8–10'
Hazel	4–6'	hedge
Kiwis	10'	10'
Nut trees - orchard	35'	35'
Nut trees - forest	20'	20'
Pears, Asian Pears	20'	20'
Raspberries	2'	6–12'
Stone Fruit	15–20'	15–20'
Strawberries	see instructions, p. 27	
Sweet Cherries	25'	25'

Beware the Apple Borer!

In many parts of central and northern New England the roundheaded appletree borer, *Saperda candida*, is **the number one enemy of young apple, crabapple and quince trees.** If you are growing young apple trees in these locations, you must protect your trees from this pest. Farther south and north the borer may not be a pest. If you don't know if they are a problem in your area, check with any grower near you: they'll know. Otherwise, err on the side of caution. Also feeds on other members of the rose family, such as pear, hawthorn and Amelanchier.

Borer beetles lay eggs under the bark near the base of the tree. The developing larvae tunnel through the wood, eventually weakening the tree until it falls over. The trouble sign is small deposits of orange sawdust, called frass, at the base of the tree. Check lower trunks for frass and tunneling in late May, and again in September. Left unchecked, borers usually mean death for young trees.

Here are five strategies for controlling borers:



• **Neem Oil** Recent trials indicate neem oil is very effective against borers. This may be the best way to deter them. You can make a 2% neem solution to spray on trucks, especially the first 8–12" above soil line, once a month from June to September. In a bucket, blend 1/3 cup neem oil with 2 tsp biodegradeable dish soap until the color lightens, then mix in a gallon of warm water.

If this seems too involved for your situation, you could also just paint undiluted neem oil, warmed to liquify, onto young tree trunks.

With either method, treat trunks only; neem oil could burn the foliage.

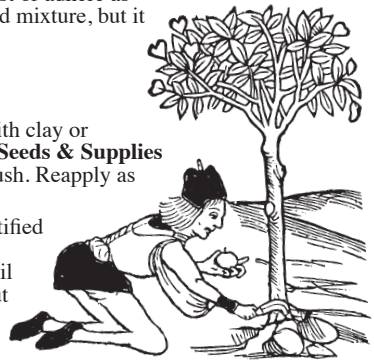
• **Paint the trunks** After neem oil, painting is likely the best deterrent, especially if you have more than a few trees to monitor for borers. It's easy and requires no hard-to-find ingredients. We recommend not applying paint until the trees have been in the ground for 3–5 years. Until then, be sure to continue monitoring them for signs of borer.

John has tried a number of recipes and this is his favorite: Mix white *interior* latex paint with joint compound. (The stuff you smear on sheet rock joints and nail holes—you can buy a small tub at any hardware store. Some exterior paint formulations contain ingredients that can harm the tree's phloem.) The consistency should be thick but still quite easy to paint, not glob on. Repaint as needed. This mix will help deter borers and also make detection of infestations easier. Once you locate a borer hole, you ll have to cut or blast it out (see below). Look for the orange frass!

We are experimenting with a borer-prevention formula using more benign ingredients. It doesn't last or adhere as well as the paint-joint compound mixture, but it appears to work fairly well.

2 qt quick lime
4 gal milk
1 gal boiled linseed oil

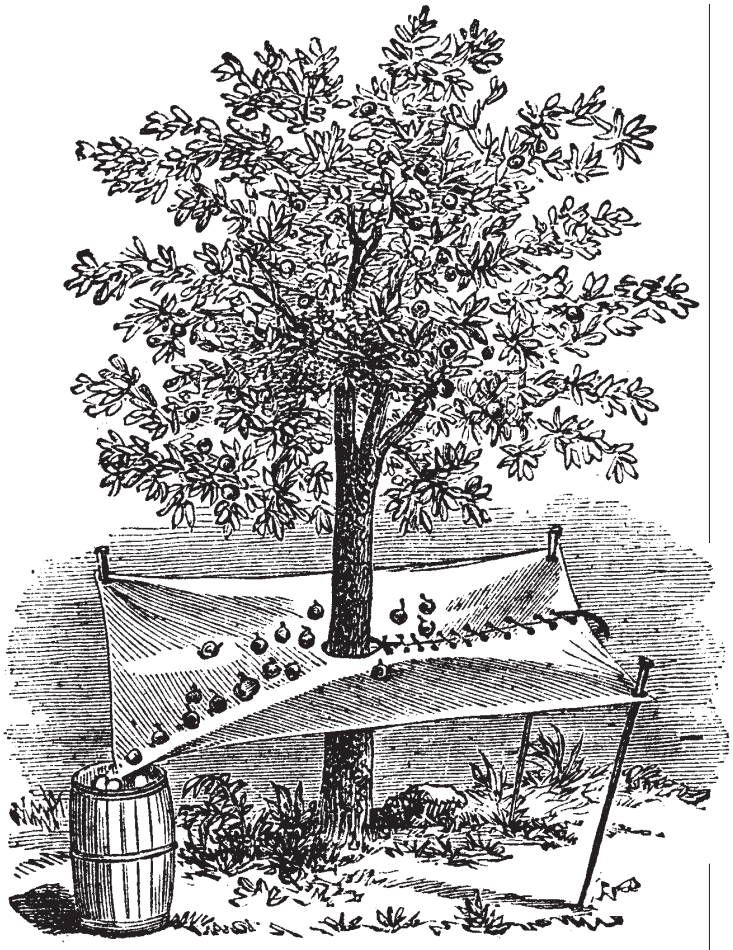
Mix well. Thicken as needed with clay or Surround (available in Fedco's **Seeds & Supplies catalog**). Apply with a paint brush. Reapply as needed.



• **Cut It Out** Once you've identified a hole or soft spot in the trunk, insert a wire and dig around until you locate and kill the larva. Cut away soft spongy pockets with a knife. Even serious carving is less harmful to the tree than leaving the larvae alive inside.

• **Blasted Borers** When you discover a soft spot or hole in the tree, get yourself a can of compressed air (for cleaning computers). Put the long skinny tube nozzle up to the hole and give it a blast. Should do the trick.

• **The Polyculture Deterrent** Borer beetles thrive in shady moist warm environments. Keep grass back at least 6" from the tree base. Trials in our "functional" orchard suggest that a mixed polyculture environment may disguise the apple trees and fool the borers. We plant woody and herbaceous perennials around the trees, keeping them back 12" or so. Borers are lazy opportunists. If there are a lot of apple trees within easy reach, they will attack. Otherwise, you may never see them. The polyculture orchard may present too much work for them.



Scab in the apple orchard

Apple scab (*Venturia unaequalis*) is the most challenging disease for the New England apple grower. Scab is a fungus, spread by spores that overwinter in fallen fruit and leaf litter, rising up in rainy spring weather to cause grief all over again. It appears as small rough black patches on the fruit or foliage. A bit of scab is not a bad thing. It won't hurt you or your tree or fruit. Some growers actually believe that a small amount of scab triggers a beneficial self-protection response in the apple. But a lot of scab can destroy the fruit and even kill the tree. Severity of infection can vary depending on the year, the site, and the variety.

With organic or conventional fungicides as a last resort, what can you do to avoid or minimize scab damage in your trees?

• **Avoid susceptible varieties.** Although nearly all apples are susceptible to some extent, certain varieties are especially vulnerable to scab. In particular, McIntosh and its relatives are scab magnets. These include Cortland, Fameuse and Macoun. If you grow these apples, you'll probably struggle with scab in your orchard. If you can avoid these varieties, you may be able to keep scab to a tolerable level without spraying fungicides. Most heirlooms are susceptible but should be quite tolerant as long as highly susceptible varieties are kept away.

In 1945, Purdue, Rutgers and the University of Illinois began a collaboration to develop scab-immune varieties. Many of these have PRI in their names. (Prima, Priscilla, Williams Pride, etc.) They bred the varieties using *Malus floribunda* as a parent. It contains a gene that imparts scab immunity to the fruit. By crossing and recrossing, they were able to isolate and include this gene in the final introduction. We've offered some of these varieties, including GoldRush from the PRI program, and Liberty from the associated New York breeding program. If you like the fruit from these varieties, growing them can be a good strategy for avoiding scab.

• **Thin the fruit.** In late spring or early summer, we thin all our tree fruit, remove enough fruitlets that the mature fruits won't touch. You want air circulation. Insects also like those places where fruits rub against each other.

• **Clean up drops and fallen leaves.** Scab lives in the drops (fallen fruit), as do insects. Eat the drops, make them into cider, feed them to your livestock or compost them. Some farmers let livestock in the orchard to eat the drops. Also rake up leaves in the fall. Burn, compost or mow them. By practicing good hygiene in the orchard, some growers have been able to grow good McIntosh organically.

Protecting Trees from Mice and Voles

Fruit trees and ornamentals are sometimes girdled by mice or voles eating the bark. Girdling will usually kill the tree or shrub. The danger is greatest in winter. Stomp around the trunks after each fresh snowfall to create a packed-ice barrier that will prevent mice from traveling beneath the snow. Keep the grass mowed in the fall and remove large mulch piles from near the trunks. Rodents like to nest in hay more than in chip mulches. A wrap of window screening or a plastic spiral tree guard will protect your tree from being girdled.

If you use screening or plastic spiral tree guards on apple, quince or crabapple trees, remove them from April to October, as they attract borers if left on the tree in the summer.

Our trials show that a mulch of wood chips surrounding young trees greatly reduces the chance of summer vole damage. Tall grasses invite them in. The polyculture model may provide cover for the voles and can result in summer vole damage. So keep the tall perennials back about 12" from the tree.

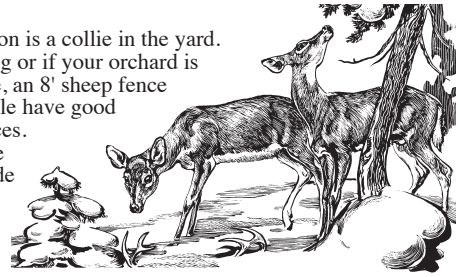
Also, make your orchard hawk friendly.

Voles Don't Like Narcissus!

For many years we've been planting daffodils around the base of some of our apple trees. No particular reason; it just looks great. Come to find out that you can beautify your orchard and deter voles at the same time. Plant daffodils in a circle a foot or two away from the base. The tunneling voles don't like the bulbs and will veer away.

We don't have the super-destructive pine voles in our orchard—whether or not the bulbs would deter them, we don't know.

Oh Dear, Deer!



The best deer protection is a collie in the yard. If you don't have a dog or if your orchard is too far from the house, an 8' sheep fence will work. Some people have good luck with electric fences. Small protective fence enclosures can be made by circling your tree with a cylinder of chicken wire or other fencing.

Aphids and ants

Aphids can do a lot of damage to apple trees and they make the young leaves look gross. Whenever you see aphids you will see ants climbing up and down the tree feeding them. Here's an easy solution. Wrap a piece of stiff paper about 6" wide around the trunk about a foot or two off the ground. Tape this sleeve to itself but not to the tree. Smear Tanglefoot (available in our **Seeds & Supplies catalog**) on the paper. Ants will not cross the barrier and, without the ants, the aphids will die. In a day or two no more aphids.

Caterpillars

Most caterpillars will not damage healthy plants and are important members of the environment. However, a few kinds, such at tent caterpillars, are extremely destructive to fruit trees. You'll know when you see them—they hatch in large crowds and rapidly defoliate plants. Vigilant daily observation, manual collection and disposal are necessary from mid-summer to fall.

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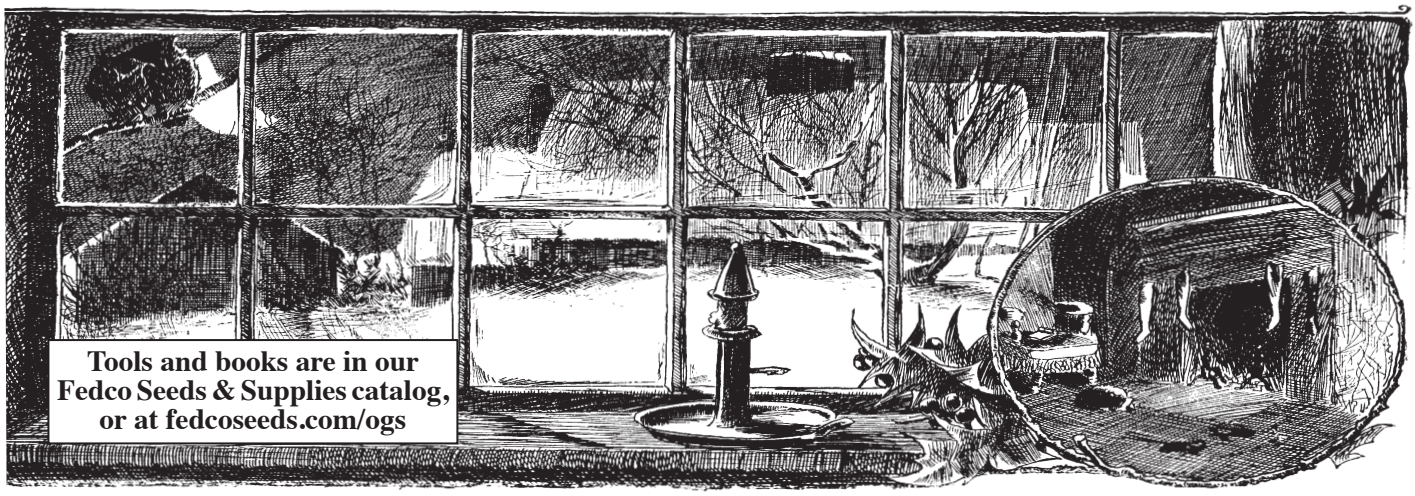

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3	-40° to -30°
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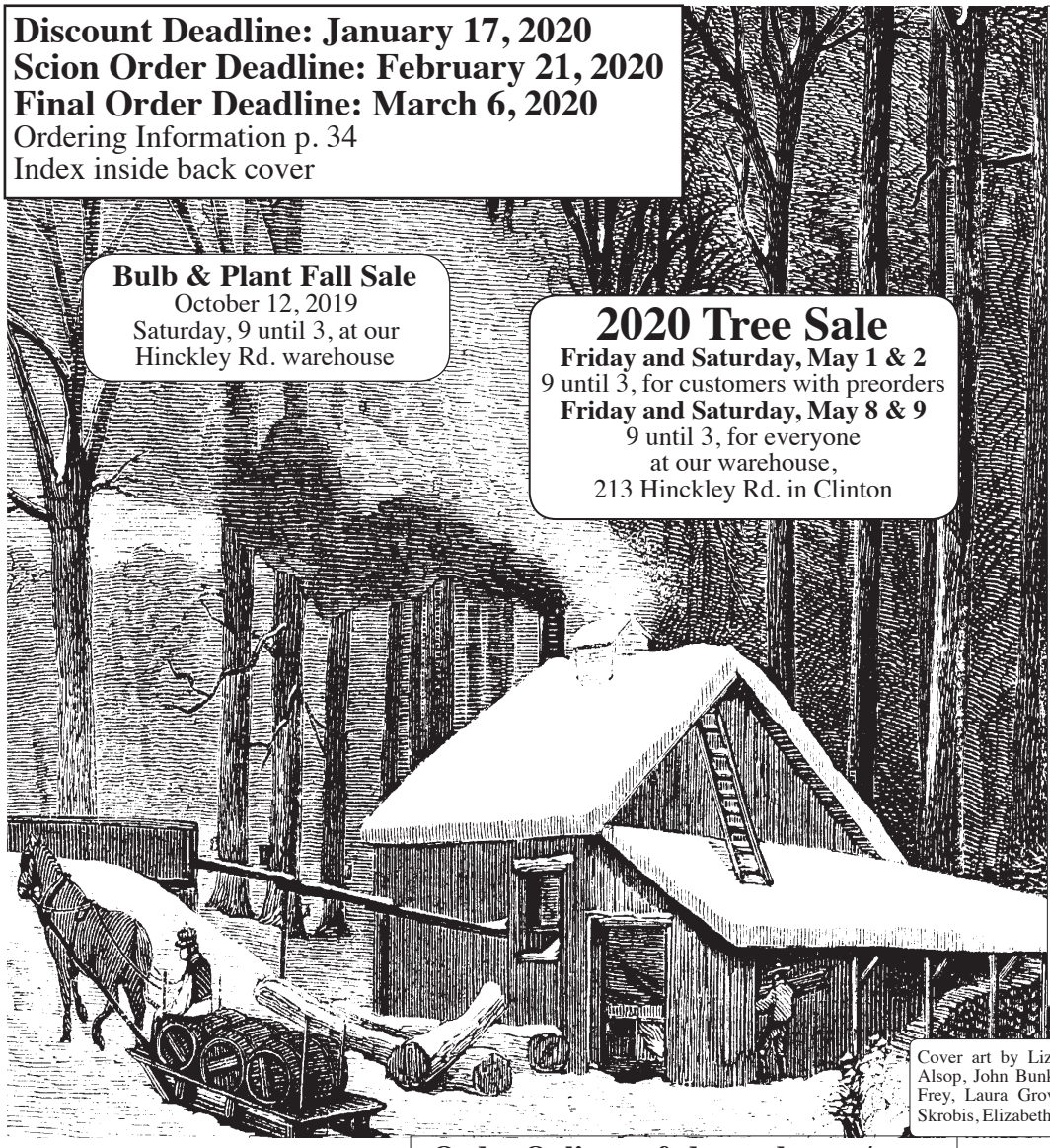

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